

NOV 10 1959

CRPL-F182 PART B

FOR OFFICIAL USE

Not to be
taken from library.

PART B
SOLAR - GEOPHYSICAL DATA

ISSUED
OCTOBER 1959

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

SOLAR - GEOPHYSICAL DATA

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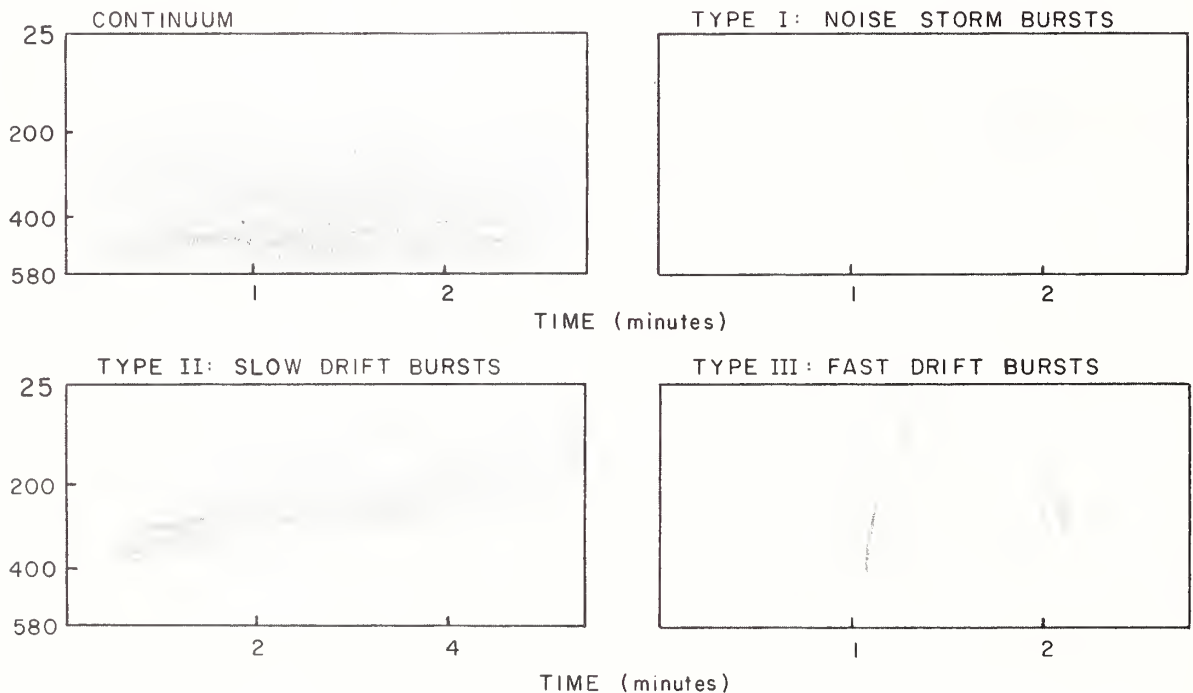
- (a) IGC 1959 Alerts and SWI

Spectrum Observations

Data on solar radio emission in the spectral range 25-580 Mc/s recorded at the Radio Astronomy Station of Harvard College Observatory, Fort Davis, Texas, are presented. The research program is supported by financial assistance from the Air Force Cambridge Research Center, through the offices of Sacramento Peak Observatory.

The receiving equipment consists of five separate sweep frequency receivers covering the bands 25-50, 50-100, 100-180, 170-320, 300-580 Mc/s. The 25-50 and 50-100 Mc/s receivers are each connected to broad band dipoles which are cross polarised and mounted over a reflecting screen. The other three receivers are attached to separate broad band feeds mounted coaxially at the primary focus of an 8.55 meter diameter paraboloid, the 170-320 Mc/s feed being cross polarised with the other two feeds. The effective collecting area of the antenna is 40 sq. meters at 100 Mc/s and 45 sq. meters at 500 Mc/s.

The four types of recognized spectral activity are idealized below:



The large scale examples of continuum, sometimes called Type IV, are listed as "Cont. IV" in the tables. Photographic examples of the bursts have been published by Maxwell, Swarup, and Thompson (Proc. IRE 46, 142, 1958), and Maxwell (Sky and Telescope 17, 388, 1958; 18, 544, and 556, 1959). A few remaining solar radio bursts are tabulated as unclassified.

The symbols used in the tables are:

- b = single burst
- g = small group (<10) of bursts
- G = large group (≥ 10) of bursts
- = Arrows indicate continuity of solar activity
between two Greenwich days.

The minimum detectable level of solar activity is a function of frequency: approximately 5×10^{-22} watts meter⁻² (c/s)⁻¹ at 500 Mc/s. The equipment records signals over an intensity range of approximately 10,000:1. There are three classes of intensity given in the tables. For 100 Mc/s they are:

- 1 = Faint, 5 to 40×10^{-22} watts meter⁻² (c/s)⁻¹.
- 2 = Moderate, 30 to 200×10^{-22} .
- 3 = Strong, $>200 \times 10^{-22}$.

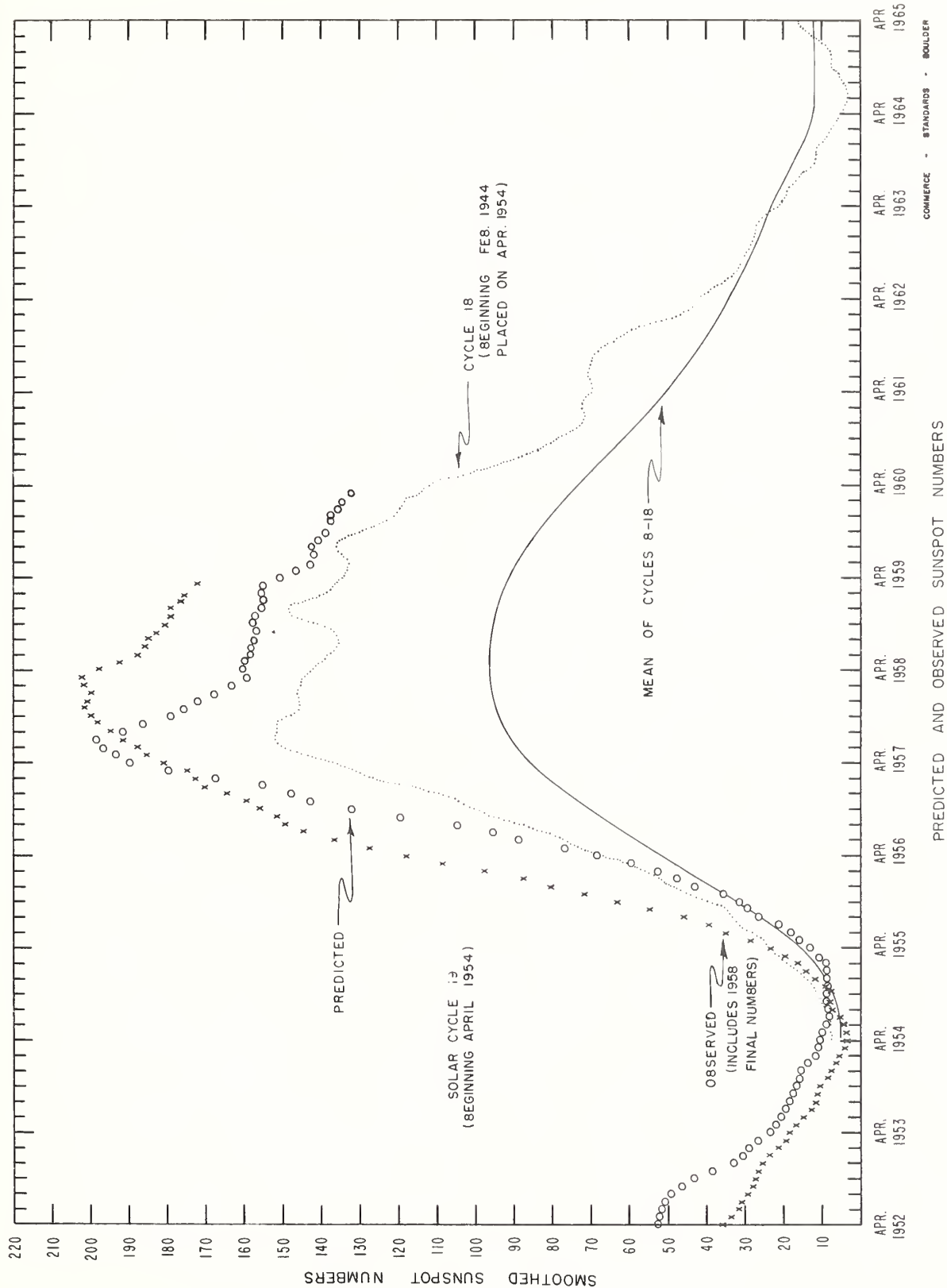
The times are Universal Time (U. T.). The accuracy is to the nearest half minute, except in the case of major outbursts which are specified to the nearest 0.1 minute.

Details of the frequency ranges of activity may be obtained on request to the Radio Astronomy Station, Ft. Davis, Texas.

DAILY SOLAR INDICES

| Aug. 1959 | American Relative Sunspot Numbers R_A |
|--------------|---|
| 1 | 183 |
| 2 | 214 |
| 3 | 204 |
| 4 | 179 |
| 5 | 194 |
| 6 | 167 |
| 7 | 173 |
| 8 | 141 |
| 9 | 147 |
| 10 | 161 |
| 11 | 144 |
| 12 | 136 |
| 13 | 106 |
| 14 | 106 |
| 15 | 134 |
| 16 | 145 |
| 17 | 122 |
| 18 | 141 |
| 19 | 162 |
| 20 | 160 |
| 21 | 164 |
| 22 | 195 |
| 23 | 192 |
| 24 | 153 |
| 25 | 193 |
| 26 | 228 |
| 27 | 253 |
| 28 | 259 |
| 29 | 273 |
| 30 | 285 |
| 31 | 261 |
| Mean: | 179.8 |

| Sept 1959 | Zürich Provisional Relative Sunspot Numbers R_Z | Daily Values Solar Flux at 2800 Mc, Ottawa, Canada Flux |
|--------------|--|--|
| 1 | 290 | 282 |
| 2 | 256 | 269 |
| 3 | 202 | 257 |
| 4 | 161 | 239 |
| 5 | 148 | 220 |
| 6 | 144 | 200 |
| 7 | 135 | 192 |
| 8 | 136 | 199 |
| 9 | 157 | 209 |
| 10 | 141 | 201 |
| 11 | 155 | 203 |
| 12 | 170 | 195 |
| 13 | 148 | 189 |
| 14 | 151 | 196 |
| 15 | 168 | 184 |
| 16 | 130 | 168 |
| 17 | 87 | 170 |
| 18 | 100 | 167 |
| 19 | 120 | 175 |
| 20 | 143 | 185 |
| 21 | 132 | 182 |
| 22 | 155 | 188 |
| 23 | 136 | 182 |
| 24 | 155 | 183 |
| 25 | 105 | 175 |
| 26 | 106 | 164 |
| 27 | 92 | 163 |
| 28 | 87 | 162 |
| 29 | 80 | 159 |
| 30 | 76 | 156 |
| Mean: | 142.2 | 193.8 |



CALCIUM PLAGE AND SUNSPOT REGIONS

SEPTEMBER 1959

| CMP Sept 1959 | Lat | McMath Plage Number | Return of Region | Calcium Plage Data | | | | Sunspot Data | | |
|---------------------|-----|---------------------------|------------------------|-------------------------|-------|----------------------|-----|--------------------------|-----|----------------------|
| | | | | CMP Values Area Int. | | History, Age | | CMP Values Area Count | | History |
| 01.6 | N11 | 5344 | * | 8000 | 2.5 | $\ell - \ell$ | 1 | 1050 | 32 | ℓ / ℓ |
| 02.3 | N12 | 5347 | ** | (5000) | (3) | $\ell \searrow d$ | - | | | |
| 03.5 | S21 | 5350 | New | (200) | (1) | $\ell \searrow d$ | 1 | | | |
| 03.6 | N04 | 5349 | 5314 | 600 | 1 | $\ell \searrow d$ | 2 | | | |
| 03.7 | N17 | 5348 | New | 3500 | 3 | ℓ / ℓ | 1 | 850 | 1 | $\ell - \ell$ |
| 04.6 | N25 | 5352 | 5315 | 800 | 2.5 | $\ell - \ell$ | 6,4 | | | |
| 04.7 | N03 | 5351 | New | 900 | 1 | $\ell \searrow d$ | 1 | | | |
| 05.3 | S14 | 5353 | *** | 5000 | 3 | $\ell - \ell$ | 7,2 | 210 | 4 | $\ell \searrow d$ |
| 05.5 | N18 | 5354 | 5315 | 1000 | 1.5 | $\ell \searrow \ell$ | 6,4 | | | |
| 05.5 | S20 | 5363 | New | (1000) | (2.5) | $b \swarrow \ell$ | 1 | | | |
| 06.7 | N18 | 5355 | 5315 | 3000 | 1.5 | ℓ / ℓ | 6,4 | 70 | 1 | $\ell \searrow d$ |
| 08.3 | N15 | 5356 | 5315 | 3200 | 3 | $\ell - \ell$ | 6,4 | 80 | 5 | $\ell \searrow d$ |
| 08.7 | N27 | 5374 | New | (800) | (3) | $b \swarrow \ell$ | 1 | | | |
| 09.8 | S12 | 5358 | New | (200) | (1) | $\ell \searrow d$ | 1 | | | |
| 09.9 | S19 | 5367 | New | (700) | (3) | b / ℓ | 1 | (100) | (3) | $b \swarrow \ell$ |
| 10.8 | N18 | 5359 | 5323 | 1200 | 2.5 | $\ell - \ell$ | 5 | 60 | 4 | $\ell \searrow d$ |
| 11.4 | N06 | 5360 | 5323 | 7000 | 3 | ℓ / ℓ | 5 | 2290 | 16 | $\ell - \ell$ |
| 11.5 | S17 | 5361 | New | 2000 | 3 | $\ell - \ell$ | 1 | 460 | 1 | $\ell - \ell$ |
| 12.8 | N16 | 5362 | 5323 | 1500 | 2 | $\ell - \ell$ | 5 | | | |
| 15.0 | S16 | 5365 | New | 1200 | 3 | $\ell - \ell$ | 1 | 50 | 2 | $\ell \searrow d$ |
| 15.0 | S03 | 5369 | New | 200 | 2 | $b \wedge d$ | 1 | 10 | 1 | $b \wedge d$ |
| 15.9 | N17 | 5364 | New | 1000 | 2.5 | $\ell - \ell$ | 1 | | | |
| 15.9 | N06 | 5366 | **** | 2500 | 2.5 | $\ell - \ell$ | 4,2 | 340 | 3 | $\ell - \ell$ |
| 17.8 | S24 | 5368 | 5337 | 2000 | 2 | $\ell - \ell$ | 2 | | | |
| 17.8 | S12 | 5370 | 5330 | 800 | 1.5 | $\ell \searrow d$ | 3 | | | |
| 18.8 | S17 | 5375 | New | 1200 | 3 | $\ell - \ell$ | 1 | 230 | 6 | $\ell - \ell$ |
| 19.3 | N30 | 5372 | New | (1500) | (1.5) | $\ell \searrow d$ | 1 | | | |
| 19.7 | N15 | 5373 | New | 1500 | 3 | $\ell - \ell$ | 1 | 340 | 11 | $\ell - \ell$ |
| 20.2 | S13 | 5376 | 5335 | 1000 | 3 | b / ℓ | 5,4 | 450 | 7 | b / ℓ |
| 20.7 | N12 | 5377 | 5336 | 1000 | 2 | ℓ / ℓ | 2 | | | |
| 21.6 | S21 | 5380 | New | 700 | 2.5 | $b \swarrow \ell$ | 1 | | | |
| 22.3 | N03 | 5383 | New | 700 | 2.5 | b / ℓ | 1 | 60 | 3 | $b \swarrow \ell$ |
| 22.4 | N19 | 5378 | 5336 | 4500 | 2 | $\ell - \ell$ | 2 | | | |
| 22.4 | S12 | 5382 | New | 500 | 1.5 | $b \swarrow \ell$ | 1 | | | |
| 24.2 | N18 | 5379 | + | 8000 | 3 | $\ell - \ell$ | 3 | 390 | 6 | $\ell - \ell$ |
| 24.8 | S12 | 5381 | 5340 | 7000 | 3 | $\ell - \ell$ | 2 | 630 | 7 | $\ell - \ell$ |
| 25.3 | N00 | 5400 | | (500) | (1.5) | $b \swarrow \ell$ | | | | |
| 25.9 | N10 | 5384 | 5341 | 700 | 2 | $\ell - \ell$ | 3,4 | | | |
| 26.9 | N20 | 5387 | 5346 | (500) | (1) | $\ell \searrow d$ | 2 | | | |
| 27.5 | S06 | 5385 | 5343 | 700 | 2 | $\ell - \ell$ | 2 | | | |
| 27.6 | N10 | 5386 | 5344 | 1500 | 2.5 | $\ell - \ell$ | 2 | | | |
| 27.8 | S20 | 5388 | 5342 | 200 | 2 | $b \swarrow \ell$ | 3,6 | | | |
| 29.0 | N11 | 5389 | 5344 | 600 | 1.5 | $\ell - \ell$ | 2 | | | |
| 30.2 | S06 | 5390 | New | 600 | 2.5 | $\ell - \ell$ | 1 | 120 | 1 | $\ell \searrow \ell$ |
| 30.7 | N14 | 5391 | 5348 | 1100 | 2 | $\ell - \ell$ | 2 | 220 | 3 | $\ell \searrow d$ |

COMMERCE - STANDARDS - BOULDER

* 5310 and new.

** Merged with 5344.

*** 5313, 5317.

**** 5328, 5329.

+ 5339 and part of 5341.

Coronal indices for September 1959 will appear in a later issue of this report. Reductions have not yet been made due to scaling equipment failure.

STANDARD - STANDARDS - BOLLING

SOLAR FLARES

SEPTEMBER 1959

| OBSERVATORY | DATE SEPT | OBSERVED UNIVERSAL TIME | | LOCATION | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | |
|-------------|--------------|----------------------------|---------|----------|-----------------------|-------------------------------|----------------------|---------------|---------------------------|---------------------------|---------------------------------|-------------------|--------------------------------------|------------|
| | | START | END | LAT. | APPROX. MER. DIST. | | | | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH H _o | MAX. INT. % | | |
| MITAKA | 02 | 0415 E | 0425 | S00 E38 | 5353 | 10 D | 1 | 1 | 0415 | 3.02 | 4.05 | 1.92 | 102 | Slow S-SWF |
| | 02 | 0451 E | 0505 | N09 W15 | 5344 | 14 | 1 | 1 | 0455 | 1.81 | 1.85 | 1.77 | 131 | |
| | 02 | 0720 E | 0725 D | N25 W76 | 5339 | 5 D | 1 | 1 | 0735 | | 5.10 | 7.10 | | |
| | 02 | 0721 E | 0757 D | N13 W13 | 5344 | 36 D | 16 | | | | 9.00 | | | |
| | 02 | 0722 E | 0934 D | N12 W10 | 5344 | 102 D | 2 | | | | 7.80 | | | |
| | 02 | 0723 E | 0914 D | N11 W10 | 5344 | 111 D | 16 | 1 | 0726 | | 6.23 | 3.00 | 404 | |
| | 02 | 0725 E | 0757 D | N10 W09 | 5344 | 52 D | 2 | 1 | 0735 | | 4.40 | 2.97 | 92 | |
| | 02 | 0731 E | 0920 | N12 W10 | 5344 | 109 D | 16 | 3 | 0738 | | 12.00 | 3.17 | 92 | |
| | 02 | 0736 E | 0925 | N10 W10 | 5344 | 109 D | 3 | 3 | 0745 | | | | | |
| | 02 | 0740 E | 0930 | N11 W09 | 5344 | 110 D | 26 | | | | | | | |
| | 02 | 0855 | 0940 | S13 W60 | 5340 | 45 | 1 | 3 | 0900 | | 3.00 | | | |
| | 02 | 0857 | 0913 | S11 W59 | 5340 | 16 | 1 | | | | | | | |
| 02 | 0900 | 0930 | S13 W62 | 5340 | 30 | 1 | | | | | | | | |
| 02 | 0919 E | 1002 D | S09 W60 | 5340 | 43 D | 16 | | | | | | | | |
| 02 | 0920 | 0938 | S12 W59 | 5340 | 18 | 1 | 3 | 0920 | | 5.00 | | | | |
| 02 | 0934 | 0950 | N10 W20 | 5344 | 16 | 1 | | | | 3.00 | | | | |
| 02 | 0935 | 0955 D | N11 W21 | 5344 | 20 D | 1 | 3 | 0935 | | 5.00 | | | | |
| 02 | 1212 E | 1222 | N25 W73 | 5339 | 10 D | 1 | 2 | 1212 | | 2.00 | | | | |
| 02 | 1430 | 1450 | N30 W82 | 5339 | 20 | 1 | 2 | 1430 | | 5.00 | | | | |
| 02 | 1430 | 1450 | N10 W22 | 5344 | 20 | 1 | 2 | 1430 | | 2.00 | | | | |
| 02 | 1448 | 1505 | N16 E07 | 5348 | 17 | 1 | 3 | | 2.50 | | | 28 | | |
| 02 | 1451 | 1458 | N10 E04 | 5348 | 7 | 1 | 2 | 1451 | | 1.00 | | | | |
| 02 | 1451 | 1507 | N15 E07 | 5348 | 16 | 1 | 2 | 1451 | | 4.00 | | | | |
| 02 | 1456 | 1459 | S11 E33 | 5353 | 3 | 1 | 2 | 1456 | | 2.00 | | | | |
| 02 | 1602 | 1637 | N24 W76 | 5339 | 35 | 1 | 3 | | 3.23 | | | 30 | | |
| 02 | 1603 | 1645 | N25 W70 | 5339 | 42 | 16 | | | | | | | | |
| 02 | 1604 | 1634 | N24 W78 | 5339 | 30 | 1 | | 1607 | | 2.70 | | | | |
| 02 | 1605 E | 1633 D | N24 W75 | 5339 | 28 D | 1 | 1 | 1605 | | | | | | |
| 02 | 1610 E | 1634 D | N27 W79 | 5339 | 24 D | 1 | | | | 9.00 | | | | |
| 02 | 1730 | 1802 | S13 W69 | 5340 | 32 | 1 | 3 | | 2.32 | | | 18 | | |
| 03 | 0645 | 0715 D | S13 W78 | 5340 | 30 D | 1 | 1 | 0649 | | 4.10 | 3.40 | 52 | | |
| 03 | 0710 E | 0718 D | N08 W32 | 5344 | 8 D | 1 | 3 | 0710 | | 1.00 | | | | |
| 03 | 0844 | 0900 | N09 W34 | 5344 | 16 | 1 | 3 | 0844 | | 3.00 | | | | |
| 03 | 0859 | 0912 | N05 W33 | 5343 | 13 | 1 | 3 | 0859 | | 2.00 | | | | |
| 03 | 0909 | 0916 | N09 W34 | 5344 | 7 | 1 | 3 | 0909 | | 3.00 | | | | |
| 03 | 0950 E | 1014 D | N12 W15 | 5344 | 24 D | 1 | | | | 4.00 | | | | |
| 03 | 1013 E | 1043 | N12 W17 | 5344 | 30 D | 16 | 3 | 1013 | | 5.00 | | | | |
| 03 | 1131 E | 1154 D | S11 W74 | 5340 | 23 D | 16 | | | | | | | | |
| 03 | 1442 E | 1522 D | N12 W17 | 5344 | 40 D | 1 | | | | 3.00 | | | | |
| 03 | 1530 E | 1612 D | S12 W75 | 5340 | 42 D | 16 | | | | 6.00 | | | | |
| 03 | 1802 | 1924 | N15 W29 | 5344 | 82 | 1 | | 1817 | 3.30 | | | | | |
| 03 | 1806 E | 1920 | N14 W29 | 5344 | 74 D | 1 | 2 | 1822 | 2.40 | | | | | |
| 03 | 1806 E | 1950 D | N14 W29 | 5344 | 104 D | 2 | 1 | 1820 | | 5.00 | | | | |
| 03 | 1840 E | 1922 D | N15 W30 | 5344 | 42 D | 16 | 2 | | 5.10 | | | 17 | | |
| 04 | 0642 E | 0733 D | N09 W46 | 5344 | 51 D | 1 | | | | 3.00 | | | | |
| 04 | 0706 E | 0710 D | N09 W45 | 5344 | 4 D | 1 | 3 | 0706 | | 2.00 | | | | |
| 04 | 0730 | 0820 | N15 W80 | 5339 | 50 | 2 | | | | 5.00 | | | | |
| 04 | 0758 E | 0821 D | N09 W46 | 5344 | 23 D | 16 | | | | 5.00 | | | | |
| 04 | 0801 E | 0839 D | N08 W47 | 5344 | 36 D | 1 | 1 | 0839 | | 2.60 | 3.70 | 68 | | |
| 04 | 0825 E | 0840 D | S13 W90 | 5340 | 15 D | 1 | 1 | 0825 | | | | 52 | | |
| 04 | 0845 E | 0918 D | N09 W47 | 5344 | 33 D | 1 | | | | 3.00 | | | | |

SOLAR FLARES

SEPTEMBER 1959

| OBSERVATORY | DATE | OBSERVED UNIVERSAL TIME | | LOCATION | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | |
|---|-----------|-------------------------|--------|-----------------|--------------------------|-------------------------------|----------------------|---------------|----------------------------|------------------|---------------------------|---------------------------|--------------------------------------|---------------------|
| | | START | END | APPROX. LAT. | APPROX. MER. DIST. | | | | MC-MATH PLAGE REGION | TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | | MAX. WIDTH He |
| { ZURICH ZURICH CAPRI G WENDEL ZURICH CAPRI G CAPRI G CAPRI G WENDEL ZURICH LOCARNO ZURICH | 04 | 0848 E | 0906 | N09 W45 | 5344 | 18 D | 1 | 3 | 0848 | | 2.00 | | | |
| | J4 | 0853 | 0907 | S12 E14 | 5353 | 14 | 1 | 3 | 0853 | | 1.00 | | | |
| | 04 | 1016 | 1035 | N11 E90 | 5359 | 19 | 1 | | | | | | | |
| | { WENDEL | 04 | 1036 E | 1110 D | N09 W49 | 5344 | 34 D | 16 | | | 5.00 | | | |
| | { ZURICH | 04 | 1038 | 1102 D | N08 W47 | 5344 | 24 D | 1 | 2 | 1038 | | 3.00 | | |
| | { CAPRI G | 04 | 1044 E | 1058 | N09 W47 | 5344 | 14 D | 1 | | | 4.00 | | | |
| | { CAPRI G | J4 | 1113 | 1127 | N10 E9 J | 5359 | 14 | 1 | | | | | | |
| | { CAPRI G | 04 | 1122 | 1250 | S11 E17 | 5353 | 28 | 1 | | | 3.00 | | | |
| | { WENDEL | 04 | 1142 E | 1228 D | S12 E14 | 5353 | 46 D | 1 | 2 | 1246 | | 3.00 | | |
| | { ZURICH | J4 | 1246 E | 1312 | S12 E12 | 5353 | 26 D | 1 | 2 | 1415 | | 1.00 | | |
| { LOCARNO | 04 | 1415 E | 1424 | N19 W17 | 5348 | 9 D | 1 | 2 | 1415 | | 1.00 | | | |
| | 04 | 1502 | 1504 | S12 E11 | 5353 | 2 | 1 | 2 | 1502 | | 1.00 | | | |
| { MCMATH SAC PEAK SAC PEAK | 05 | 1556 | 1612 | N11 W52 | 5344 | 16 | 1 | 1 | 1558 | | 2.00 | | | |
| | J5 | 1557 E | 1614 | N12 W52 | 5344 | 17 D | 1 | 2 | | 3.51 | | | 20 | |
| | J5 | 2330 | 2348 D | N05 E74 | 5360 | 18 D | 16 | 2 | | 5.00 | | | 17 | |
| { SIMEIZ WENDEL LOCARNO LOCARNO | 06 | 0750 E | 0805 D | N09 E79 | 5360 | 15 D | 1 | 1 | 0758 | | 4.10 | | 64 | |
| | 06 | 0907 E | 0949 D | S19 E69 | 5361 | 42 D | 1 | | | | 4.00 | | | |
| | 06 | 0915 E | 0923 | S18 E66 | 5361 | 8 D | 16 | 2 | 0915 | | 4.00 | | | |
| | { LOCARNO | 06 | 0932 | 0940 D | S19 E65 | 5361 | 8 D | 1 | 2 | | | | | |
| { CAPRI G CAPRI S LOCARNO ZURICH | J7 | 0755 E | 0810 D | S20 W51 | 5353 | 15 D | 1 | 1 | 0840 | | 3.00 | | | |
| | 07 | 0834 E | 0845 | N20 W51 | 5348 | 11 D | 1 | 1 | | 2.30 | | | | |
| | 07 | 0835 E | 0855 | N18 W48 | 5348 | 20 D | 16 | 2 | | | | | | |
| | { ZURICH | 07 | 1009 | 1016 | N16 W52 | 5348 | 7 | 1 | 1009 | | 1.00 | | | |
| { AROSA SIMEIZ MEUDON STOCKHOLM CAPRI S ARCTRI WENDEL AROSA CAPRI G CAPRI G CAPRI S SAC PEAK | 08 | 0615 E | 0630 D | S10 W41 | 5353 | 15 D | 1 | 1 | 0844 | | 5.00 | 2.40 | 88 | |
| | 08 | 0836 E | 0844 D | N18 W66 | 5348 | 8 D | 1 | 1 | | | 5.00 | | | |
| | 08 | 0836 | 0906 | N19 W57 | 5348 | 30 | 1 | | | | | | | |
| | 08 | 0839 | 0857 | N21 W60 | 5348 | 18 | 1 | 2 | 0844 | 1.80 | 3.60 | | | |
| | { CAPRI S | 08 | 0840 E | 0857 | N20 W60 | 5348 | 17 D | 1 | 3 | 0846 | 2.20 | 4.80 | | |
| | { ARCTRI | 08 | 0842 E | 0847 D | N19 W63 | 5348 | 5 D | 1 | 3 | | | 5.00 | | |
| | { WENDEL | 08 | 0842 E | 0904 D | N21 W61 | 5348 | 22 D | 16 | | | | | | |
| | AROSA | 08 | 0850 E | 0900 D | N21 W60 | 5348 | 10 D | 1 | | | 4.00 | | | |
| | { CAPRI G | 08 | 0852 E | 0904 | N20 W61 | 5348 | 12 D | 1 | | | 3.00 | | | |
| | { CAPRI G | J8 | 0901 | 0918 | N20 W42 | 5348 | 17 | 1 | | | | | | |
| { CAPRI S SAC PEAK CAPRI S CAPRI S CAPRI S CAPRI S CAPRI S CAPRI S CAPRI S CAPRI S | 08 | 1311 E | 1331 | S10 W44 | 5353 | 20 D | 1 | 3 | 1322 | 1.80 | 2.30 | | 16 | |
| | 08 | 2134 | 2206 | N05 E35 | 5360 | 32 | 1 | 1 | | 2.50 | | | | |
| | 09 | 0645 | 0800 | N05 E32 | 5360 | 75 | 26 | 3 | 0706 | 4.60 | 5.50 | | | |
| | { CAPRI S | J9 | 0650 E | 0820 | N05 E29 | 5360 | 90 D | 2 | 2 | 0720 | | 7.00 | | |
| | LOCARNO | 09 | 0650 | 0925 | N05 E28 | 5360 | 155 | 16 | | | 13.00 | | | |
| | MEUDON | 09 | 0651 E | 0706 D | N05 E29 | 5360 | 15 D | 1 | 1 | 0706 | | 4.60 | 2.50 | 92 |
| | SIMEIZ | 09 | 0651 | 0815 | N05 E29 | 5360 | 84 | 2 | | | 6.00 | | | |
| | { CAPRI G | 09 | 0651 | 0815 | N05 E29 | 5360 | 84 | 2 | | | 6.00 | | | |
| | MITANA | 09 | 0652 | 0732 | N05 E30 | 5360 | 40 | 1 | 1 | 0655 | 2.71 | 3.20 | 2.86 | 152 |
| | { WENDEL | 09 | 0701 E | 0812 D | N05 E30 | 5360 | 71 D | 2 | | | 10.00 | | | |
| { AROSA ZURICH ARCTRI ZURICH LOCARNO | 09 | 0713 E | 0735 D | N05 E30 | 5360 | 22 D | 2 | | | | | | | |
| | AROSA | 09 | 0739 E | 0757 D | N05 E28 | 5360 | 18 D | 2 | 3 | 0739 | | 9.00 | | |
| | { ARCTRI | 09 | 0918 E | | N03 E27 | 5360 | | 1 | | 4.10 | 4.70 | | | |
| | ZURICH | 09 | 0938 | 0942 | N05 E30 | 5360 | 4 | 1 | 3 | 0918 | | 1.00 | | |
| | { ZURICH | 09 | 0946 | 1000 | N05 E26 | 5360 | 14 | 1 | 3 | 0946 | | 3.00 | | |
| | { LOCARNO | 09 | 1325 | 1420 D | N06 E25 | 5360 | 55 D | 16 | 2 | 1335 | | 4.00 | | |

SOLAR FLARES

SEPTEMBER 1959

| OBSERVATORY | DATE SEPT 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | | PROVISIONAL IONOSPHERIC EFFECT |
|--|----------------------|----------------------------|--------|-----------------|---------------------------|------|-------------------------------|----------------------|---------------|------------------|---------------------------|---------------------------|---------------------|-------------------|--------------------------------------|
| | | START | END | APPROX. LAT. | McMATH PLACE REGION | | | | | TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | |
| | | | | | MER. DIST. | | | | | | | | | | |
| { ZURICH WENDEL MCMATH LOCARNO CAPRI G SAC PEAK CAPRI S DUNSTON LOCKHEED AROSA CLINAX | 09 | 1332 | 1410 | N05 E24 | | 5360 | 38 | 1 | 3 | 1332 | | 3.00 | | Slow S-SWF | |
| | 09 | 1525 E | 1652 D | N05 E25 | | 5360 | 87 D | 2 | | | | 12.00 | | | |
| | 09 | 1540 | 1700 D | N04 E25 | | 5360 | 80 D | 1 | 1 | 1600 | | 2.00 | | | |
| | 09 | 1545 | 1700 | N06 E25 | | 5360 | 75 | 2 | 2 | 1610 | | 7.00 | | | |
| | 09 | 1548 | 1620 D | N05 E24 | | 5360 | 32 D | 2 | | | | 6.00 | | | |
| | 09 | 1552 | 1720 D | N05 E25 | | 5360 | 88 D | 1 | 2 | | 2.22 | | | | |
| | 09 | 1555 | 1639 | N05 E27 | | 5360 | 44 | 16 | 3 | 1603 | 4.00 | 4.40 | | | |
| | 09 | 1557 E | 1628 | S22 W03 | | | 31 D | 1 | 2 | 1558 | 3.75 | 3.75 | 1.80 | | |
| | 09 | 1603 E | 1644 | N12 E25 | | 5360 | 41 D | 1 | 3 | 1616 | 2.40 | | | | |
| | 09 | 1625 E | 1640 D | N05 E24 | | 5360 | 15 D | 1 | | | | | | | |
| { CAPRI G CAPRI G ZURICH LOCARNO CAPRI G CAPRI G ZURICH LOCARNO CAPRI G | 09 | 2113 | 2130 D | N04 E23 | | 5360 | 17 D | 1 | | 2130 | 2.10 | | | Slow S-SWF | |
| | 10 | 0747 | 0803 | N19 W90 | | 5348 | 16 | 1 | | | | | | | |
| | 10 | 1005 | 1018 | N07 E14 | | 5360 | 13 | 1 | | | | 4.00 | | | |
| | 10 | 1225 E | 1230 D | N04 E11 | | 5360 | 5 D | 2 | 2 | 1225 | | 7.00 | | | |
| | 10 | 1436 | 1505 | N06 E13 | | 5360 | 29 | 16 | 2 | | | | | | |
| | 10 | 1605 | 1615 D | N14 E31 | | 5362 | 10 D | 1 | | | | 3.00 | | | |
| | 10 | 1610 | 1640 | N09 E35 | | 5360 | 30 | 16 | 2 | | | | | | |
| | 11 | 1139 | 1148 | S16 E45 | | 5365 | 18 | 1 | | | | 3.00 | | | |
| | 11 | 1344 | 1414 | N12 W12 | | 5360 | 70 | 16 | | 1317 | | 4.00 | | | |
| | 11 | 1517 | 1549 D | N12 W06 | | 5360 | 32 D | 1 | 2 | | | 2.00 | | | |
| { CAPRI G LOCARNO LOCARNO HAWAII CAPRI G SIMEIZ SIMEIZ SIMEIZ SIMEIZ CAPRI S ZURICH CAPRI G STOCKHOLM ARCTERI ZURICH LOCARNO MCMATH | 11 | 1637 | 1645 | S20 W19 | | 5367 | 8 | 1 | 2 | | | | | Slow S-SWF | |
| | 12 | 1327 E | 1356 | N03 E55 | | 5366 | 9 D | 1 | | | | 4.00 | | | |
| | 13 | 0700 E | 0800 | N14 E85 | | 5373 | 60 D | 16 | 2 | | | | | | |
| | 13 | 1420 | 1500 | N14 E81 | | 5373 | 40 | 1 | 2 | | | | | | |
| | 13 | 1940 | 1944 | N01 E37 | | 5366 | 4 | 1 | 3 | 1942 | 2.60 | 3.20 | | | |
| | 14 | 0550 E | 0600 D | N06 W36 | | 5360 | 10 D | 1 | | | | 4.00 | | | |
| | 14 | 0557 E | 0640 D | N07 W37 | | 5360 | 43 D | 1 | 2 | 0557 | | 3.90 | 2.30 | | |
| | 14 | 0556 E | 0700 D | N14 E75 | | 5373 | 64 D | 16 | 2 | 0556 | | 6.10 | 2.30 | | |
| | 14 | 0730 E | 0741 D | N28 W78 | | 5374 | 11 D | 1 | 2 | 0735 | | 4.20 | 2.90 | | |
| | 14 | 0742 E | 0855 D | N16 E73 | | 5373 | 73 D | 16 | 2 | 0751 | | 9.10 | 2.20 | | |
| { CAPRI S ZURICH CAPRI G STOCKHOLM ARCTERI ZURICH LOCARNO MCMATH LOCKHEED WENDEL CAPRI G CAPRI G ZURICH ZURICH ZURICH LOCARNO REUDON | 14 | 0744 E | 0814 D | N15 E80 | | 5375 | 30 D | 1 | 3 | 0749 | 1.50 | 4.30 | | Slow S-SWF | |
| | 14 | 0746 E | 0803 D | N16 E71 | | 5373 | 17 D | 1 | 3 | 0746 | | 4.00 | | | |
| | 14 | 0750 E | 0835 | N14 E71 | | 5373 | 45 D | 2 | 3 | | | 5.00 | | | |
| | 14 | 0825 E | 0932 D | N10 E68 | | 5373 | 67 D | 1 | 3 | 0847 | 1.10 | 2.50 | | | |
| | 14 | 1022 E | 1032 | N13 E70 | | 5373 | 5 | 1 | 3 | 1022 | 2.20 | 6.40 | | | |
| | 14 | 1027 | 1027 | N29 W80 | | 5374 | 18 | 1 | 2 | 1022 | | 1.00 | | | |
| | 14 | 1602 | 1620 | S18 W62 | | 5367 | 90 D | 1 | 1 | | | | | | |
| | 14 | 1630 E | 1800 D | N14 E66 | | 5373 | 90 D | 1 | 1 | | | | | | |
| | 15 | 0135 | 0155 D | N19 E66 | | 5373 | 20 | 2 | 1 | 0145 | 10.00 | | | | * 2 |
| | 15 | 0724 E | 0840 D | N15 E59 | | 5373 | 76 D | 16 | | | | 5.00 | | | |
| { CAPRI G CAPRI G ZURICH ZURICH ZURICH ZURICH LOCARNO REUDON | 15 | 0820 E | 0915 | N14 E58 | | 5373 | 55 D | 2 | | | | 5.00 | | Slow S-SWF | |
| | 15 | 0845 E | 1102 | S17 W69 | | 5367 | 39 D | 1 | | | | 4.00 | | | |
| | 15 | 1023 E | 1102 | N13 E58 | | 5373 | 39 D | 1 | 2 | 1044 | | 2.00 | | | |
| | 15 | 1250 E | 1302 | S17 W78 | | 5367 | 12 D | 1 | 2 | 1250 | | 3.00 | | | |
| | 15 | 1250 E | 1306 | N14 E56 | | 5373 | 16 D | 1 | 2 | 1250 | | 1.00 | | | |
| | 15 | 1310 | 1335 | N14 E56 | | 5373 | 25 | 1 | 2 | 1318 | | 2.00 | | | |
| | 15 | 1310 | 1340 | N13 E55 | | 5373 | 30 | 1 | 2 | 1318 | | 2.00 | | | |
| | 15 | 1310 | 1340 | N13 E55 | | 5373 | 30 | 1 | 2 | 1318 | | 2.00 | | | |
| | 15 | 1310 | 1340 | N13 E55 | | 5373 | 30 | 1 | 2 | 1318 | | 2.00 | | | |

SOLAR FLARES

SEPTEMBER 1959

| OBSERVATORY | DATE SEPT 1957 | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | |
|---------------------------------|----------------------|----------------------------|--------|-----------------|---------------|----------------------------|-------------------------------|----------------------|---------------|------------------|---------------------------|---------------------------|---------------------------------|--------------------------------------|-------------------|
| | | START | END | APPROX. LAT. | MER. DIST. | MC MATH PLAGE REGION | | | | TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH H _o | | MAX. INT. % |
| { ZURICH WENDEL CAPRI G | 15 | 1317 | 1337 | N14 | E57 | 5373 | 20 | 1 | 2 | 1317 | | 5.00 | | | |
| | 15 | 1319 | 1417 D | N15 | E56 | 5373 | 58 U | 16 | | | | 5.00 | | | |
| | 15 | 1330 | 1340 D | N13 | E53 | 5373 | 10 D | 1 | | | | 4.00 | | | |
| | 15 | 1432 | 1413 | N14 | E54 | 5373 | 11 | 1 | 2 | 1402 | | 1.00 | | | |
| | 15 | 1647 | 1650 D | S17 | W80 | 5367 | 3 D | 1 | 2 | 1647 | | 3.00 | | | |
| { CAPRI G CAPRI S CAPRI G | 16 | 0746 | 0807 | N21 | E9J | 5379 | 21 | 1 | 3 | 1444 | 4.20 | 10.90 | | | |
| | 16 | 1435 | 1501 | N06 | W66 | 5360 | 26 D | 2 | | | | 4.00 | | | |
| | 16 | 1546 | 1603 D | N06 | W72 | 5360 | 17 D | 16 | | | | 5.00 | | | |
| | 16 | 1551 | 1616 | N04 | W72 | 5360 | 25 U | 1 | 3 | 1551 | | 7.30 | | | |
| | 16 | 1552 | 1616 | N05 | W67 | 5360 | 26 | 2 | 3 | 1600 | 2.80 | 2.00 | | | |
| { CAPRI S MC MATH ZURICH | 16 | 1553 | 1602 D | N03 | W73 | 5360 | 9 D | 1 | 1 | 1556 | | 3.00 | | Slow S-SWF | |
| | 16 | 1609 | 1626 | S16 | W29 | 5365 | 17 | 3 | 3 | 1609 | | | | | |
| | 16 | 1844 | 1852 D | N33 | E90 | 5379 | 8 D | 1 | 2 | 1848 | 2.29 | | | | |
| | 16 | 1846 | 1854 D | N29 | E90 | 5379 | 8 D | 2 | | | 1.60 | | | | |
| | 17 | 0836 | 0846 D | N18 | E85 | 5379 | 10 D | 1 | 1 | 0837 | | 8.30 | | | |
| { SIMEIZ SIMEIZ CAPRI G | 17 | 0847 | 0900 | N05 | E71 | 5378 | 13 | 1 | 1 | 0849 | | 2.30 | | 52 52 | |
| | 17 | 1122 | 1132 | S14 | E13 | 5375 | 10 | 1 | | | | 3.00 | | | |
| | 18 | 0716 | 0732 | N21 | E71 | 5379 | 16 | 1 | | | | 4.00 | | | 60 |
| | 19 | 0555 | 0730 D | S13 | E14 | 5376 | 95 D | 1 | 1 | 0555 | | 1.00 | 2.10 | | |
| | 19 | 0812 | 0830 D | S15 | W09 | 5375 | 18 D | 1 | 1 | 0815 | | 3.50 | | | |
| { ARCTET CAPRI G | 19 | 0905 | 0916 D | S12 | E12 | 5376 | 11 D | 1 | 3 | 0907 | 2.50 | 2.60 | | 56 17 | |
| | 19 | 1243 | 1300 | S15 | W14 | 5375 | 17 | 1 | | | | 3.00 | | | |
| | 20 | 0753 | 0800 D | S11 | E71 | 5381 | 7 D | 1 | 1 | 0756 | | 2.50 | | | |
| | 20 | 1414 | 1540 | N18 | E24 | 5378 | 86 | 1 | 2 | | 3.01 | | | | |
| | 20 | 1425 | 1540 | N19 | E26 | 5378 | 75 | 16 | 2 | 1500 | | 3.00 | | | |
| { CAPRI S WENDEL CAPRI G | 20 | 1418 | 1457 D | N10 | E24 | 5383 | 39 D | 1 | 3 | 1424 | 3.00 | 3.40 | | 3 24 | |
| | 20 | 1419 | 1534 | N18 | E23 | 5379 | 75 | 2 | | | | 9.00 | | | |
| | 20 | 1420 | 1510 | N19 | E34 | 5379 | 50 D | 2 | | | | 5.00 | | | |
| | 20 | 1520 | 1620 | S08 | E46 | 5381 | 60 | 1 | 2 | 1600 | | 2.00 | | | |
| | 20 | 1526 | 1553 D | S07 | E44 | 5381 | 27 D | 1 | | | | 3.00 | | | |
| { CAPRI G WENDEL ZURICH | 20 | 1526 | 1610 | S10 | E47 | 5381 | 44 | 16 | | | | 6.00 | | 3 24 | |
| | 20 | 1533 | 1553 D | S08 | E46 | 5381 | 20 D | 1 | 2 | 1533 | | 3.00 | | | |
| | 20 | 1558 | 1612 | N05 | W41 | 5366 | 14 | 1 | | | | 3.00 | | | |
| | 20 | 2252 | 2325 | S08 | E52 | 5381 | 33 | 1 | 1 | 2256 | 1.80 | 5.20 | | | |
| | 20 | 2252 | 2330 | S08 | E50 | 5381 | 38 | 1 | 2 | 2322 | 2.32 | 3.14 | | | |
| { SAC PEAK HAWAII MITAKA | 20 | 2254 | 2330 | S11 | E52 | 5381 | 36 | 1 | 3 | 2258 | 2.10 | 4.00 | | 2.39 120 | |
| | 20 | 2258 | 2315 | S05 | E53 | 5381 | 17 D | 1 | 2 | 2301 | .80 | 1.50 | 2.39 | | |
| | 21 | 0056 | 0114 | S18 | E56 | 5381 | 18 | 1 | 3 | 0106 | 2.30 | 5.20 | | | |
| | 21 | 0102 | 0113 | S12 | E58 | 5381 | 11 D | 1 | 1 | 0106 | 1.51 | 3.14 | 1.72 | | |
| | 21 | 0945 | 1004 D | N02 | E11 | 5383 | 19 D | 1 | 1 | | | 4.00 | | | |
| { LOCARNO CAPRI S WENDEL | 21 | 1000 | 1010 E | N12 | E10 | 5383 | 10 D | 1 | 2 | | | | | 3.30 5.00 2.00 4.00 | |
| | 21 | 1100 | 1132 D | S10 | E48 | 5381 | 32 D | 1 | 3 | 1112 | 2.20 | 3.30 | | | |
| | 21 | 1106 | 1137 D | S12 | E45 | 5381 | 31 | 16 | | | | 5.00 | | | |
| | 21 | 1218 | 1303 | S10 | E34 | 5381 | 45 | 1 | 1 | 1223 | | 2.00 | | | |
| | 21 | 1219 | 1300 D | S12 | E35 | 5381 | 41 D | 1 | 2 | 1250 | 2.50 | 3.10 | | | |
| { MFUDON CAPRI S | 21 | 1233 | 1259 | S08 | E35 | 5381 | 26 D | 1 | 2 | | | | | 17 | |
| | 21 | 1344 | 1356 | S12 | E44 | 5381 | 12 D | 1 | 2 | | 3.01 | | | | |

SOLAR FLARES

SEPTEMBER 1959

| OBSERVATORY | DATE | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | | |
|--|------|-------------------------|--------|---------------|------|--------------------------------|-------------------------------|----------------------|---------------|-------------------|------------------|---------------------------|---------------------------|--------------------------------------|---------------------|-------------------|
| | | START | END | MAX. PHASE | LAT. | APPROX. PLAGE MER. DIST. | | | | MC-MATH REGION | TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | | MAX. WIDTH Ha | MAX. INT. % |
| { HAWAII SAC PEAK | 21 | 2026 | 2124 D | 2038 | N24 | E34 | 5379 | 58 D | 16 | 2 | 2038 | 4.10 | 5.20 | 15 | S-SWF | |
| | 21 | 2028 E | 2222 D | 2036 | N28 | E34 | 5379 | 114 D | 2 | 2 | | 5.95 | | | | |
| | 23 | 0725 E | 0750 | | N29 | E12 | 5379 | 25 D | 16 | 2 | | | | | | |
| | 23 | 1240 | 1250 | | S08 | E09 | 5381 | 10 | 1 | 2 | 1245 | | 1.00 | | | |
| | 23 | 1250 E | 1301 | | S08 | E06 | 5381 | 11 D | 1 | 2 | | | 3.00 | | | |
| { CAPRI G SAC PEAK | 23 | 2342 | 2346 D | 2346 U | N21 | W16 | 5378 | 4 D | 1 | 1 | | 2.90 | | 14 | | |
| | 24 | 0044 | 0048 | | N06 | W23 | 5383 | 4 | 1 | 3 | 0048 | 2.50 | 2.70 | | | |
| { HAWAII SIMEIZ ZURICH LOCARNO | 24 | 0745 | 0823 D | 0749 | S19 | W01 | 5381 | 38 D | 1 | 1 | 0748 | 2.40 | 2.40 | 100 | | |
| | 24 | 1010 | 1018 | | S07 | W01 | 5381 | 8 | 1 | 3 | 1010 | | 2.00 | | | |
| | 24 | 1500 E | 1515 D | | S07 | W03 | 5381 | 15 D | 1 | 2 | | | | | | |
| | 25 | 0749 | 0757 D | | S07 | W13 | 5381 | 8 D | 1 | | | | 3.00 | | | |
| { CAPRI S CAPRI S CAPRI G WENDEL | 25 | 0758 E | 0809 D | | S06 | W13 | 5381 | 11 D | 1 | 1 | 0759 | 3.20 | 3.20 | 17 | S-SWF | |
| | 25 | 1055 | 1109 D | | S07 | W16 | 5381 | 14 D | 1 | 2 | 1108 | 2.10 | 2.10 | | | |
| | 25 | 1109 E | | | S09 | W10 | 5381 | | 1 | | | 4.00 | 4.00 | | | |
| | 25 | 1509 E | 1550 D | | S07 | W18 | 5381 | 41 D | 1 | | | | 3.00 | | | |
| | 26 | 0906 E | 0920 D | | N26 | W19 | 5379 | 14 D | 1 | | | | 3.00 | | | |
| { CAPRI S CAPRI G CAPRI S SAC PEAK | 26 | 1256 E | 1328 D | | S01 | W29 | 5381 | 32 D | 16 | 3 | 1306 | 4.50 | 5.00 | 16 | S-SWF | |
| | 26 | 1258 E | 1320 D | | S04 | W25 | 5381 | 22 D | 1 | | | 4.00 | | | | |
| | 26 | 1352 | 1418 | 1358 | S14 | W24 | 5381 | 26 | 1 | 2 | | 2.29 | | | | |
| | 27 | 2236 | 2326 | 2244 | S12 | W40 | 5381 | 50 | 1 | 2 | | 2.32 | | | | |
| { CAPRI G CAPRI S LOCKHEED | 28 | 0639 | 0704 | | S13 | E45 | 5392 | 25 | 16 | | | | 4.00 | 2 | S-SWF | |
| | 28 | 0642 | 0706 | | S12 | W46 | 5381 | 24 | 1 | 3 | 0646 | 2.50 | 3.80 | | | |
| { MITAKA WENDEL MEUDON CAPRI G | 29 | 1900 | 2000 | 1926 | S08 | W30 | 5385 | 60 | 1 | 2 | 1926 | 2.20 | | | | |
| | 30 | 0313 E | 0325 | | S10 | W69 | 5381 | 12 D | 1 | 1 | 0315 | 2.02 | 5.05 | 2.50 | 120 | |
| | 30 | 1025 E | 1038 | | S18 | E80 | 5401 | 13 D | 16 | | | | 5.00 | | | |
| | 30 | 1316 | 1326 | | S12 | W80 | 5381 | 10 | 1 | | | | | | | |
| | 30 | 1321 E | 1353 D | | S13 | W72 | 5389 | 32 D | 1 | | | | 4.00 | | | |

*Lockheed observations: Starting September 10, 1959 all values in the maximum intensity column are arbitrary units on a scale of 1 to 4 - not percent of the continuous spectrum.

Errata:

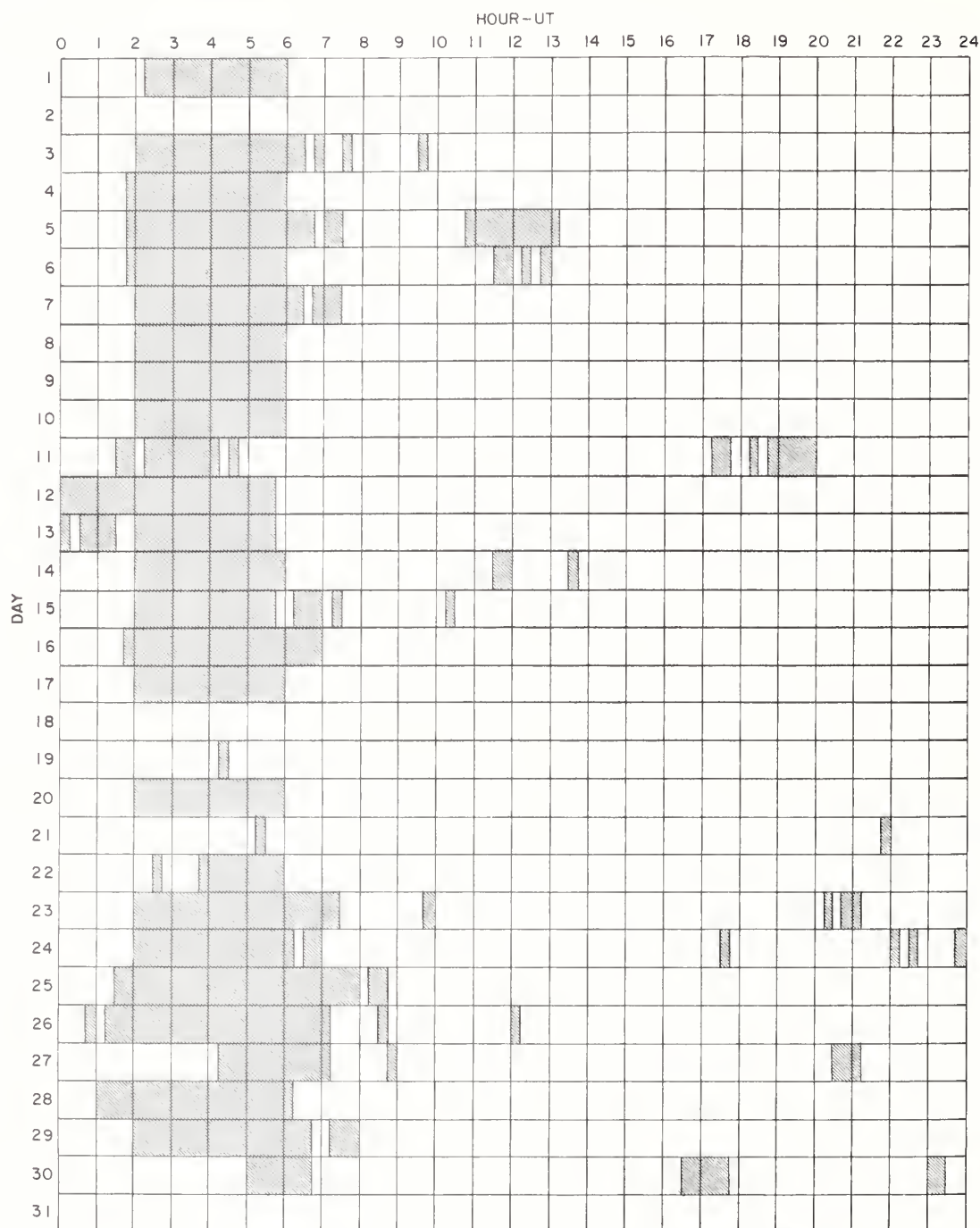
The latitude reported for the Sydney flare observed April 9, 1959 at 2343 UT., which was published in CRPL-F 180 Part B, August 1959 should be corrected to read South 11 instead of North 19.

CAPRI C ANACAPRI - CERMAN MOSCOW - CAISH
CAPRI S ANACAPRI - SWEDISH R O EDIN
GOOD HOPE ROYAL OBSERVATORY, CAPE OF GOOD HOPE GREENWICH ROYAL OBSERVATORY, EDINBURGH
KIEV* KIEV UNIVERSITY SAC PEAK GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX
KODAIKANAL KODAIKANAL SCHAUTINS SCHAUTINSLAND
KRASNAYA KRASNAYA PAKHRA USNRL UNITED STATES NAVAL RESEARCH LABORATORY
LOCKHEED LOS ANGELES

SAC PEAK: ALL VALUES IN MAX. INT. COLUMN ARE ARBITRARY UNITS (0-40), NOT PERCENT OF CONTINUOUS SPECTRUM.
E - LESS THAN & - PLUS
D - GREATER THAN - - MINUS
U - APPROXIMATE □ - NOT REPORTED

INTERVALS OF NO FLARE PATROL OBSERVATIONS

SEPTEMBER 1959



Stations Include

COMMERCE - STANDARDS - BOULDER

| | | |
|--------------------|----------|-----------------------------|
| Anacapri (Swedish) | Hawaii | Royal Greenwich Observatory |
| Arcetri | Locarno | Herstmonceux |
| Arosa | Lockheed | Sacramento Peak |
| Climax | Meudon | Simeiz |
| Dunsink | Mitaka | Zurich |

SUBFLARES

111h

Noted as follows: Date-Universal Time - Coordinates

AUGUST 1959

| | | | | | | | | |
|------------|---------|-----------|-------------|---------|-----------|------------|---------|-----------|
| * LOCARNO | 01 0715 | N13 E06 | LOCKHEED | 05 1801 | N12 W70 | MCMAH | 10 1811 | N19 W14 |
| * LOCARNO | 01 0727 | N17 W48 | MCMAH | 05 1803 | S18 E31 | SAC PEAK | 10 1812 | N19 W14 |
| * CAPRI S | 01 1036 | E N07 W17 | MCMAH | 05 1808 | N11 W74 | LOCKHEED | 10 1812 | N21 W18 |
| MCMAH | 01 1140 | N15 W35 | SAC PEAK | 05 1810 | N11 W60 | SAC PEAK | 10 1848 | N22 W09 |
| MCMAH | 01 1207 | N10 W01 | * SAC PEAK | 05 1911 | N12 E69 | LOCKHEED | 10 1849 | N21 W09 |
| MCMAH | 01 1301 | N15 W35 | * SAC PEAK | 05 1950 | E S17 E38 | MCMAH | 10 1850 | N21 W12 |
| MCMAH | 01 1319 | N08 W48 | MCMAH | 05 2017 | N12 W75 | LOCKHEED | 10 1855 | N21 W18 |
| SAC PEAK | 01 1454 | N14 W00 | LOCKHEED | 05 2033 | N13 W74 | LOCKHEED | 10 2142 | S07 W28 |
| * LOCARNO | 01 1509 | N15 W35 | LOCKHEED | 05 2037 | N05 W39 | MCMAH | 10 2152 | E N17 W27 |
| MCMAH | 01 1508 | E N15 W35 | LOCKHEED | 05 2037 | N13 E69 | MCMAH | 10 2157 | N14 W14 |
| LOCKHEED | 01 1551 | N12 W14 | LOCKHEED | 05 2044 | N04 W30 | LOCKHEED | 10 2157 | N19 W14 |
| SAC PEAK | 01 1556 | E N12 W13 | LOCKHEED | 05 2121 | N13 E71 | HAWAII | 10 2200 | N18 W13 |
| LOCKHEED | 01 1618 | N12 E21 | LOCKHEED | 05 2251 | N09 W44 | LOCKHEED | 10 2332 | S18 W28 |
| MCMAH | 01 1645 | E S21 E30 | MCMAH | 05 2255 | E N08 W46 | LOCKHEED | 10 2344 | N11 E72 |
| LOCKHEED | 01 1650 | N10 E68 | LOCKHEED | 05 2309 | N13 E71 | | | |
| LOCKHEED | 01 1710 | N13 W37 | | | | LOCKHEED | 11 0022 | N11 E73 |
| LOCKHEED | 01 1713 | N11 W21 | * CAPRI S | 06 0558 | E N14 E65 | HAWAII | 11 0026 | N08 E70 |
| LOCKHEED | 01 1746 | N15 W50 | LOCARNO | 06 0855 | N13 W71 | LOCKHEED | 11 0102 | N11 E72 |
| MCMAH | 01 1746 | N15 W37 | LOCARNO | 06 1030 | N13 W72 | SIMEIZ | 11 0620 | E S10 W38 |
| LOCKHEED | 01 1811 | N08 W22 | MCMAH | 06 1200 | N15 E33 | SIMEIZ | 11 0623 | E S14 W30 |
| MCMAH | 01 1812 | N07 W22 | MCMAH | 06 1210 | N14 W78 | SIMEIZ | 11 0649 | E N10 E67 |
| * HAWAII | 01 1824 | E N15 W02 | MCMAH | 06 1225 | E S11 E26 | WENDEL | 11 0719 | E N14 W07 |
| LOCKHEED | 01 1901 | N06 E21 | * MCMAH | 06 1323 | N13 E66 | LOCARNO | 11 0856 | N20 W17 |
| LOCKHEED | 01 2028 | N06 E21 | MCMAH | 06 1351 | N17 E43 | * WENDEL | 11 0901 | E N11 E63 |
| MCMAH | 01 2039 | N13 W13 | * MCMAH | 06 1500 | N13 E64 | * MCMAH | 11 1205 | E N20 W25 |
| LOCKHEED | 01 2047 | N13 W14 | * LOCKHEED | 06 1505 | E N15 E62 | SAC PEAK | 11 1331 | N15 W03 |
| MCMAH | 01 2107 | N10 W05 | * LOCKHEED | 06 1518 | N17 E31 | SAC PEAK | 11 1350 | S07 W35 |
| LOCKHEED | 01 2214 | N12 W20 | * MCMAH | 06 1519 | N18 E33 | SAC PEAK | 11 1400 | N11 W22 |
| | | | * MCMAH | 06 1525 | S01 E18 | * SAC PEAK | 11 1410 | N02 W59 |
| LOCKHEED | 02 0148 | N11 E16 | MCMAH | 06 1544 | N10 W68 | * SAC PEAK | 11 1412 | S07 W38 |
| WENDEL | 02 0706 | E N12 E15 | * LOCKHEED | 06 1635 | N10 W77 | WENDEL | 11 1413 | E N10 W33 |
| * WENDEL | 02 0721 | N12 E18 | * MCMAH | 06 1640 | N11 W78 | MCMAH | 11 1420 | N17 E10 |
| MCMAH | 02 1134 | S22 E20 | LOCARNO | 06 1643 | N16 E61 | SAC PEAK | 11 1434 | N15 W23 |
| MCMAH | 02 1151 | N12 W31 | SAC PEAK | 06 1656 | N11 W76 | SAC PEAK | 11 1442 | N10 E59 |
| MCMAH | 02 1156 | N12 W31 | LOCARNO | 06 1659 | N10 E61 | SAC PEAK | 11 1526 | S07 W36 |
| MCMAH | 02 1210 | N07 W33 | LOCKHEED | 06 1731 | N16 E61 | LOCKHEED | 11 1646 | N17 W07 |
| MCMAH | 02 1235 | E N14 W15 | LOCKHEED | 06 1752 | N16 E61 | MCMAH | 11 1647 | N16 W05 |
| MCMAH | 02 1244 | N07 W33 | MCMAH | 06 1752 | N13 E60 | HUANCAYO | 11 1649 | E N17 W02 |
| MCMAH | 02 1303 | N03 E18 | LOCKHEED | 06 1758 | N17 E60 | LOCKHEED | 11 1701 | N12 E50 |
| SAC PEAK | 02 1406 | N12 W25 | MCMAH | 06 1834 | N13 E60 | MCMAH | 11 1807 | E N20 W27 |
| MCMAH | 02 1432 | S22 E18 | MCMAH | 06 1835 | E N14 W40 | LOCKHEED | 11 1958 | N03 W60 |
| SAC PEAK | 02 1442 | N14 W27 | MCMAH | 06 1919 | E N14 E60 | MCMAH | 11 2044 | S09 W41 |
| MCMAH | 02 1558 | E N14 W27 | MCMAH | 06 1940 | N15 E61 | MCMAH | 11 2221 | E N12 W28 |
| SAC PEAK | 02 1608 | N06 E07 | MCMAH | 06 2002 | N15 E60 | LOCKHEED | 11 2221 | N17 W08 |
| MCMAH | 02 1609 | N06 E07 | LOCKHEED | 06 2137 | N18 E34 | LOCKHEED | 11 2226 | N11 E58 |
| SAC PEAK | 02 1610 | N14 W27 | MCMAH | 06 2138 | N17 E44 | | | |
| SAC PEAK | 02 1616 | N12 W16 | MCMAH | 06 2147 | N15 E68 | | | |
| MCMAH | 02 1638 | N06 E07 | LOCKHEED | 06 2153 | N15 E60 | | | |
| MCMAH | 02 1652 | N15 W27 | LOCKHEED | 06 2336 | N18 E34 | | | |
| MCMAH | 02 1700 | S22 E18 | | | | | | |
| SAC PEAK | 02 1704 | E S22 E18 | SIMEIZ | 07 0704 | E N26 E36 | LOCKHEED | 12 0003 | * N09 E55 |
| HAWAII | 02 1828 | N05 E12 | SIMEIZ | 07 0709 | E N18 E31 | LOCKHEED | 12 0154 | N17 W10 |
| SAC PEAK | 02 1828 | N03 E12 | SIMEIZ | 07 0716 | E N17 W71 | LOCKHEED | 12 0206 | N17 W35 |
| LOCKHEED | 02 1828 | N03 E12 | * CAPRI S | 07 0729 | E N20 E39 | SIMEIZ | 12 0256 | S06 W46 |
| MCMAH | 02 1828 | N05 E13 | SIMEIZ | 07 0802 | E S07 E23 | SIMEIZ | 12 0626 | S09 E24 |
| MCMAH | 02 1855 | N35 W29 | WENDEL | 07 0844 | E N17 E25 | SIMEIZ | 12 0720 | E S10 W42 |
| SAC PEAK | 02 1920 | N03 E11 | * ARCTRI | 07 0849 | E N18 E30 | MCMAH | 12 1150 | E N13 W19 |
| MCMAH | 02 1921 | N03 E10 | * STOCKHOLM | 07 0951 | E N10 E48 | * CAPRI S | 12 1217 | E N16 W44 |
| LOCKHEED | 02 1931 | S23 E19 | SAC PEAK | 07 1322 | N05 E90 | * MCMAH | 12 1229 | E N11 E52 |
| MCMAH | 02 1931 | S23 E19 | SAC PEAK | 07 1426 | S07 E18 | CAPRI S | 12 1342 | E S07 E19 |
| SAC PEAK | 02 1936 | E S22 E17 | SAC PEAK | 07 1520 | N21 E31 | LOCKHEED | 12 1345 | E S09 E20 |
| MCMAH | 02 2032 | N04 E11 | WENDEL | 07 1520 | N22 E30 | * SAC PEAK | 12 1534 | S08 E18 |
| LOCKHEED | 02 2127 | S22 E16 | WENDEL | 07 1522 | E N21 E30 | SAC PEAK | 12 1616 | S09 E18 |
| MCMAH | 02 2127 | S23 E18 | * LOCKHEED | 07 1532 | N18 E19 | MCMAH | 12 1620 | E S09 E20 |
| HAWAII | 02 2128 | N12 E16 | SAC PEAK | 07 1534 | E N17 E19 | LOCARNO | 12 1635 | N18 W41 |
| SAC PEAK | 02 2134 | E S22 E15 | * SAC PEAK | 07 1534 | S07 E18 | LOCKHEED | 12 1637 | N12 W22 |
| MCMAH | 02 2148 | N13 W27 | WENDEL | 07 1536 | E N16 E20 | SAC PEAK | 12 1642 | E N19 W42 |
| | | | SAC PEAK | 07 1658 | N03 W55 | LOCKHEED | 12 1703 | N06 W71 |
| LOCARNO | 03 0610 | N14 W18 | LOCKHEED | 07 1659 | N02 W54 | LOCKHEED | 12 1721 | E N20 W29 |
| LOCARNO | 03 1200 | N12 W37 | LOCKHEED | 07 1716 | N14 E46 | LOCKHEED | 12 1807 | N20 W41 |
| MCMAH | 03 1220 | N13 W40 | SAC PEAK | 07 1716 | N14 E47 | SAC PEAK | 12 1812 | N20 W41 |
| MCMAH | 03 1308 | N12 W40 | WENDEL | 07 1721 | E N12 E46 | MCMAH | 12 1812 | N21 W41 |
| LOCARNO | 03 1318 | N01 W05 | SAC PEAK | 07 1724 | E N17 E17 | LOCKHEED | 12 1830 | S07 W50 |
| LOCARNO | 03 1321 | N02 W06 | LOCKHEED | 07 1724 | N17 E19 | MCMAH | 12 1830 | S06 W49 |
| SAC PEAK | 03 1322 | N02 W05 | * SAC PEAK | 07 1732 | N17 E17 | MCMAH | 12 1929 | N15 E54 |
| SAC PEAK | 03 1346 | N11 W39 | LOCKHEED | 07 1856 | N29 E29 | * MCMAH | 12 1940 | N10 W87 |
| MCMAH | 03 1347 | N12 W39 | LOCKHEED | 07 2108 | N18 E16 | * HAWAII | 12 1940 | N09 W80 |
| * SAC PEAK | 03 1348 | S22 E06 | LOCKHEED | 07 2320 | S06 E13 | LOCKHEED | 12 1947 | E S01 W85 |
| * MCMAH | 03 1348 | S21 E07 | | | | MCMAH | 12 1950 | N11 W47 |
| LOCARNO | 03 1350 | N16 W76 | | | | LOCKHEED | 12 2210 | S10 W47 |
| SAC PEAK | 03 1350 | N17 W78 | LOCKHEED | 08 0024 | N18 E13 | * LOCKHEED | 13 0012 | S09 W51 |
| LOCARNO | 03 1352 | N12 W37 | HAWAII | 08 0034 | E N17 E14 | SIMEIZ | 13 0413 | N13 E23 |
| LOCARNO | 03 1419 | N01 W06 | WENDEL | 08 0537 | E N17 E20 | SIMEIZ | 13 0630 | E N13 E41 |
| LOCARNO | 03 1420 | S21 E07 | WENDEL | 08 0543 | E N17 E19 | STOCKHOLM | 13 0918 | N18 W77 |
| SAC PEAK | 03 1422 | N02 W07 | * SIMEIZ | 08 0652 | E N18 E11 | HAWAII | 13 2124 | E S08 E01 |
| SAC PEAK | 03 1424 | S22 E07 | WENDEL | 08 0704 | E N02 W02 | MCMAH | 13 2129 | S08 E01 |
| MCMAH | 03 1431 | E S21 E07 | SIMEIZ | 08 0707 | N01 W07 | | | |
| * SAC PEAK | 03 1514 | N07 W11 | * WENDEL | 08 0733 | E N17 E27 | HAWAII | 14 0004 | N06 E90 |
| * MCMAH | 03 1517 | E N07 W11 | WENDEL | 08 0814 | E N01 W70 | LOCARNO | 14 0954 | E N13 E22 |
| SAC PEAK | 03 1548 | N01 W07 | WENDEL | 08 0831 | N05 W69 | STOCKHOLM | 14 0955 | N12 E23 |
| SAC PEAK | 03 1604 | N02 W14 | * WENDEL | 08 0839 | N13 E33 | MCMAH | 14 1143 | N09 E21 |
| SAC PEAK | 03 1604 | S21 E05 | * STOCKHOLM | 08 0842 | N12 E36 | MCMAH | 14 1144 | N20 W42 |
| SAC PEAK | 03 1722 | S22 E05 | * STOCKHOLM | 08 0858 | N03 W10 | MCMAH | 14 1220 | N13 E21 |
| SAC PEAK | 03 1732 | N03 W02 | * CAPRI S | 08 0949 | E N17 E10 | WENDEL | 14 1629 | E N05 E53 |
| SAC PEAK | 03 1804 | N25 E84 | * STOCKHOLM | 08 0944 | E N17 E36 | MCMAH | 14 1753 | N28 W58 |
| LOCKHEED | 03 1913 | N05 W06 | STOCKHOLM | 08 0958 | E S10 W61 | MCMAH | 14 1904 | E N12 E17 |
| LOCKHEED | 03 2135 | N13 W30 | SAC PEAK | 08 1356 | N14 E34 | HAWAII | 14 1802 | E N14 E15 |
| SAC PEAK | 03 2136 | N13 W29 | * SAC PEAK | 08 1356 | N14 W90 | MCMAH | 14 1847 | N12 E16 |
| LOCKHEED | 03 2216 | N13 W29 | * CAPRI S | 08 1449 | E N13 E33 | MCMAH | 14 2013 | E N16 W16 |
| LOCKHEED | 03 2312 | E N01 W10 | SAC PEAK | 08 1546 | N14 W90 | SAC PEAK | 14 2300 | S05 W17 |
| | | | LOCKHEED | 08 1702 | E N16 E35 | LOCKHEED | 14 2302 | S05 W17 |
| SIMEIZ | 04 0646 | E N00 E47 | LOCKHEED | 08 1711 | N25 W90 | LOCKHEED | 14 2317 | S09 E87 |
| * WENDEL | 04 0717 | E N05 W13 | MCMAH | 08 1714 | E N24 W90 | | | |
| SIMEIZ | 04 0807 | E N06 W14 | SAC PEAK | 08 1715 | E N23 W90 | LOCKHEED | 15 0150 | N14 E13 |
| * D HERST | 04 1050 | E N02 W10 | MCMAH | 08 1725 | S08 E05 | * CAPRI S | 15 1453 | E N15 E05 |
| MCMAH | 04 1622 | E N02 W10 | MCMAH | 08 1727 | N17 E24 | * SAC PEAK | 15 1456 | E N14 E03 |
| LOCKHEED | 04 1631 | S02 E38 | MCMAH | 08 1742 | E N11 W29 | MCMAH | 15 1611 | N13 E05 |
| LOCKHEED | 04 1704 | N02 W16 | MCMAH | 08 1745 | N27 E18 | MCMAH | 15 1626 | E N13 E05 |
| MCMAH | 04 1704 | N15 E90 | * MCMAH | 08 1837 | N01 W15 | LOCKHEED | 15 1813 | N11 E01 |
| LOCKHEED | 04 1714 | N15 E90 | MCMAH | 08 2012 | N16 E05 | LOCKHEED | 15 1828 | N14 E03 |
| LOCKHEED | 04 1716 | N14 W56 | LOCKHEED | 08 2038 | N02 W79 | HAWAII | 15 1826 | N14 E03 |
| LOCKHEED | 04 1750 | N15 E61 | LOCKHEED | 08 2056 | N12 W30 | MCMAH | 15 1827 | E N14 E04 |
| LOCKHEED | 04 1817 | N16 W16 | MCMAH | 08 2149 | N18 E11 | MCMAH | 15 1902 | N13 W01 |
| LOCKHEED | 04 1847 | N16 E60 | LOCKHEED | 08 2149 | N18 E10 | * HAWAII | 15 1932 | N14 E00 |
| LOCKHEED | 04 2027 | N02 E23 | HAWAII | 08 2150 | N18 E09 | LOCKHEED | 15 2055 | N12 E02 |
| LOCKHEED | 04 2044 | N10 W30 | LOCKHEED | 08 2154 | N10 W16 | LOCKHEED | 15 2121 | N12 E04 |
| MCMAH | 04 2057 | E N09 W29 | | | | LOCKHEED | 15 2328 | N15 E01 |
| LOCKHEED | 05 0018 | S34 W05 | LOCKHEED | 09 0031 | N12 W34 | LOCKHEED | 16 0110 | N12 W70 |
| LOCKHEED | 05 0034 | N08 W22 | LOCARNO | 09 0118 | N18 E01 | SIMEIZ | 16 0632 | N04 E48 |
| LOCKHEED | 05 0106 | N08 W32 | HAWAII | 09 0130 | E N18 W01 | SIMEIZ | 16 0646 | N15 W03 |
| SIMEIZ | 05 0637 | E N16 E35 | SIMEIZ | 09 0817 | E S07 W05 | SIMEIZ | 16 0835 | E N15 W03 |
| ZURICH | 05 0701 | E N08 W37 | SAC PEAK | 09 1422 | N07 E08 | LOCARNO | 16 1346 | E N14 W02 |
| LOCARNO | 05 0950 | N18 E44 | * CAPRI S | 09 1423 | E N21 E06 | LOCKHEED | 16 2016 | S08 W37 |
| MCMAH | 05 1115 | E N28 E35 | SAC PEAK | 09 1540 | N02 E83 | HAWAII | 16 2020 | S09 W38 |
| MCMAH | 05 1115 | E S01 E32 | CLIMAX | 09 1541 | N00 E82 | LOCKHEED | 16 2043 | N13 W13 |
| MCMAH | 05 1116 | N03 W26 | SAC PEAK | 09 1812 | N20 E05 | LOCKHEED | 16 2232 | N14 W12 |
| CAPRI S | 05 1312 | N02 W24 | LOCKHEED | 09 1918 | N18 E04 | HAWAII | 16 2318 | N13 W14 |
| MCMAH | 05 1312 | S01 E31 | LOCKHEED | 09 2347 | N11 E85 | SAC PEAK | 16 2320 | N14 W13 |
| MCMAH | 05 1325 | N09 W40 | | | | | | |
| MCMAH | 05 1400 | N14 E50 | SIMEIZ | 10 0852 | E N12 W5 | | | |

Noted as follows: Date-Universal Time - Coordinates

AUGUST 1959

| | | | |
|---------------|----|------|---------|
| * MEUDON | 25 | 1246 | N09 W85 |
| * CAPRI | 25 | 1297 | N17 W09 |
| * R. O. HERST | 25 | 1314 | N05 W65 |
| HUANCAYO | 25 | 1378 | N05 E88 |
| * MC MATH | 25 | 1332 | N10 E46 |
| * MEUDON | 25 | 1639 | N12 E61 |
| * MC MATH | 25 | 1640 | N14 W06 |
| * MC MATH | 25 | 1776 | N13 E06 |
| * MC MATH | 25 | 1720 | N13 E41 |
| * MC MATH | 25 | 1757 | N13 E41 |
| * MC MATH | 25 | 1819 | N10 W62 |
| * MC MATH | 25 | 1831 | N13 W07 |
| * MC MATH | 25 | 1839 | N13 E40 |
| * MC MATH | 25 | 1906 | N11 E40 |
| HAWAII | 25 | 2018 | N18 W13 |
| LOCKHEED | 25 | 2236 | N17 E16 |
| LOCKHEED | 25 | 2249 | N07 W82 |
| LOCKHEED | 25 | 2331 | N17 W15 |
| LOCKHEED | 26 | 0059 | N14 E37 |
| LOCKHEED | 26 | 0030 | N15 W17 |
| SIMEIZ | 26 | 0629 | N24 E16 |
| * WENDEL | 26 | 0806 | N08 E30 |
| * SIMEIZ | 26 | 0807 | N09 E30 |
| * WENDEL | 26 | 0855 | N04 E75 |
| * CAPRI | 26 | 0912 | N10 E34 |
| * R. O. HERST | 26 | 0912 | N10 E32 |
| LOCKARNO | 26 | 1104 | N16 E90 |
| * MC MATH | 26 | 1240 | N09 E29 |
| * MC MATH | 26 | 1353 | N11 E27 |
| WENDEL | 26 | 1442 | N20 E12 |
| * MC MATH | 26 | 1528 | N12 E24 |
| * MC MATH | 26 | 1642 | N26 E10 |
| * MC MATH | 26 | 1650 | N10 E90 |
| CLIMAX | 26 | 1650 | N07 E90 |
| CLIMAX | 26 | 1802 | N08 E90 |
| LOCKHEED | 26 | 1825 | N09 E90 |
| * MC MATH | 26 | 1926 | N10 E90 |
| LOCKHEED | 26 | 2015 | N11 E26 |
| * MC MATH | 26 | 2011 | N11 E24 |
| HAWAII | 26 | 2018 | N12 E25 |
| * MC MATH | 26 | 2124 | N10 E17 |
| LOCKHEED | 26 | 2124 | N10 E17 |
| LOCKHEED | 26 | 2325 | N14 E27 |
| LOCKHEED | 26 | 2329 | N23 E07 |
| HAWAII | 27 | 0008 | N23 E03 |
| LOCKHEED | 27 | 0058 | N11 E23 |
| * ARCTERI | 27 | 0943 | N10 E15 |
| * CAPRI | 27 | 1117 | N10 E15 |
| * MC MATH | 27 | 1201 | N10 E15 |
| * MC MATH | 27 | 1205 | N17 W16 |
| * MC MATH | 27 | 1315 | N16 W20 |
| * CLIMAX | 27 | 1402 | N12 E24 |
| * CAPRI | 27 | 1423 | N02 E13 |
| * MEUDON | 27 | 1424 | N06 E03 |
| * MC MATH | 27 | 1428 | N10 E12 |
| * MC MATH | 27 | 1432 | N16 W38 |
| * LOCKARNO | 27 | 1525 | N12 W32 |
| * MEUDON | 27 | 1559 | N17 W19 |
| * MC MATH | 27 | 1601 | N08 E90 |
| * MEUDON | 27 | 1604 | N26 E06 |
| LOCKARNO | 27 | 1606 | N16 W37 |
| CLIMAX | 27 | 1608 | N18 E21 |
| * HUANCAYO | 27 | 1611 | N12 E24 |
| * MEUDON | 27 | 1615 | N15 W34 |
| * MC MATH | 27 | 1616 | N15 W39 |
| * HUANCAYO | 27 | 1620 | N17 W36 |
| LOCKARNO | 27 | 1625 | N09 E74 |
| * MC MATH | 27 | 1657 | N15 W30 |
| * MC MATH | 27 | 1708 | N26 W03 |
| * MC MATH | 27 | 1755 | N12 E24 |
| HAWAII | 27 | 1804 | N11 W01 |
| * MC MATH | 27 | 1820 | N16 W31 |
| LOCKHEED | 27 | 1945 | N12 E13 |
| LOCKHEED | 27 | 1955 | N12 E08 |
| HAWAII | 27 | 2000 | N13 E05 |
| LOCKHEED | 27 | 2006 | N13 E73 |
| LOCKHEED | 27 | 2017 | N12 E08 |
| LOCKHEED | 27 | 2041 | N12 E08 |
| HAWAII | 27 | 2054 | N15 W42 |
| HAWAII | 27 | 2056 | N17 W42 |
| * MC MATH | 27 | 2100 | N12 E08 |
| LOCKHEED | 27 | 2101 | N12 E08 |
| LOCKHEED | 27 | 2126 | N12 E08 |
| * MC MATH | 27 | 2155 | N10 E11 |
| LOCKHEED | 27 | 2218 | N09 E12 |
| * MC MATH | 27 | 2233 | N10 E11 |
| HAWAII | 27 | 2234 | N10 E12 |
| CLIMAX | 27 | 2243 | N13 E70 |
| LOCKHEED | 27 | 2245 | N13 E70 |
| LOCKHEED | 27 | 2338 | N10 E70 |
| * MEUDON | 28 | 0545 | N06 E03 |
| * MEUDON | 28 | 0608 | N21 W12 |
| * MEUDON | 28 | 0751 | N10 E65 |
| * MC MATH | 28 | 1157 | N23 W14 |
| * MC MATH | 28 | 1201 | N13 E03 |
| * MC MATH | 28 | 1219 | N12 W44 |
| ZURICH | 28 | 1225 | N23 W16 |
| MC MATH | 28 | 1226 | N14 W06 |
| MC MATH | 28 | 1247 | N26 W13 |
| MC MATH | 28 | 1334 | N12 E64 |
| MEUDON | 28 | 1341 | N06 E02 |
| MC MATH | 28 | 1341 | N08 E00 |
| MC MATH | 28 | 1348 | N13 W07 |
| ARCTERI | 28 | 1445 | N12 E66 |
| MC MATH | 28 | 1500 | N11 E63 |
| SAC PEAK | 28 | 1512 | N12 W11 |
| * MEUDON | 28 | 1520 | N08 E56 |
| * MC MATH | 28 | 1527 | N09 E52 |
| HUANCAYO | 28 | 1546 | N12 E03 |
| MC MATH | 28 | 1548 | N11 E01 |
| MC MATH | 28 | 1548 | N14 W09 |
| MEUDON | 28 | 1550 | N15 W06 |
| HUANCAYO | 28 | 1553 | N15 W09 |
| MC MATH | 28 | 1554 | N09 E52 |
| MC MATH | 28 | 1630 | N09 E52 |
| MC MATH | 28 | 1703 | N09 E50 |
| MC MATH | 28 | 1725 | N09 E50 |
| LOCKHEED | 28 | 1727 | N06 E73 |
| SAC PEAK | 28 | 1732 | N08 E49 |
| MC MATH | 28 | 1745 | N12 E64 |
| LOCKHEED | 28 | 1745 | N18 W22 |
| MC MATH | 28 | 1850 | N25 W17 |
| MC MATH | 28 | 1858 | N11 W02 |
| MC MATH | 28 | 1859 | N09 E49 |
| LOCKHEED | 28 | 1905 | N12 W02 |
| LOCKHEED | 28 | 1905 | N09 E51 |
| MC MATH | 28 | 1930 | N11 E63 |
| MC MATH | 28 | 2015 | N10 W03 |
| MC MATH | 28 | 2021 | N08 E48 |
| HAWAII | 28 | 2022 | N29 E45 |
| MC MATH | 28 | 2023 | N06 E73 |
| MC MATH | 28 | 2031 | N07 E44 |
| MC MATH | 28 | 2033 | N10 E57 |
| MC MATH | 28 | 2040 | N12 E03 |
| MC MATH | 28 | 2050 | N29 E21 |
| LOCKHEED | 28 | 2149 | N10 E02 |
| LOCKHEED | 28 | 2308 | N07 E48 |
| * MEUDON | 25 | 1246 | N09 W85 |
| * CAPRI | 25 | 1297 | N17 W09 |
| * R. O. HERST | 25 | 1314 | N05 W65 |
| HUANCAYO | 25 | 1378 | N05 E88 |
| * MC MATH | 25 | 1332 | N10 E46 |
| * MEUDON | 25 | 1639 | N12 E61 |
| * MC MATH | 25 | 1640 | N14 W06 |
| * MC MATH | 25 | 1776 | N13 E06 |
| * MC MATH | 25 | 1720 | N13 E41 |
| * MC MATH | 25 | 1757 | N13 E41 |
| * MC MATH | 25 | 1819 | N10 W62 |
| * MC MATH | 25 | 1831 | N13 W07 |
| * MC MATH | 25 | 1839 | N13 E40 |
| * MC MATH | 25 | 1906 | N11 E40 |
| HAWAII | 25 | 2018 | N18 W13 |
| LOCKHEED | 25 | 2236 | N17 E16 |
| LOCKHEED | 25 | 2249 | N07 W82 |
| LOCKHEED | 25 | 2331 | N17 W15 |
| LOCKHEED | 26 | 0059 | N14 E37 |
| LOCKHEED | 26 | 0030 | N15 W17 |
| SIMEIZ | 26 | 0629 | N24 E16 |
| * WENDEL | 26 | 0806 | N08 E30 |
| * SIMEIZ | 26 | 0807 | N09 E30 |
| * WENDEL | 26 | 0855 | N04 E75 |
| * CAPRI | 26 | 0912 | N10 E34 |
| * R. O. HERST | 26 | 0912 | N10 E32 |
| LOCKARNO | 26 | 1104 | N16 E90 |
| * MC MATH | 26 | 1240 | N09 E29 |
| * MC MATH | 26 | 1353 | N11 E27 |
| WENDEL | 26 | 1442 | N20 E12 |
| * MC MATH | 26 | 1528 | N12 E24 |
| * MC MATH | 26 | 1642 | N26 E10 |
| * MC MATH | 26 | 1650 | N10 E90 |
| CLIMAX | 26 | 1650 | N07 E90 |
| CLIMAX | 26 | 1802 | N08 E90 |
| LOCKHEED | 26 | 1825 | N09 E90 |
| * MC MATH | 26 | 1926 | N10 E90 |
| LOCKHEED | 26 | 2015 | N11 E26 |
| * MC MATH | 26 | 2011 | N11 E24 |
| HAWAII | 26 | 2018 | N12 E25 |
| * MC MATH | 26 | 2124 | N10 E17 |
| LOCKHEED | 26 | 2124 | N10 E17 |
| LOCKHEED | 26 | 2325 | N14 E27 |
| LOCKHEED | 26 | 2329 | N23 E07 |
| HAWAII | 27 | 0008 | N23 E03 |
| LOCKHEED | 27 | 0058 | N11 E23 |
| * ARCTERI | 27 | 0943 | N10 E15 |
| * CAPRI | 27 | 1117 | N10 E15 |
| * MC MATH | 27 | 1201 | N10 E15 |
| * MC MATH | 27 | 1205 | N17 W16 |
| * MC MATH | 27 | 1315 | N16 W20 |
| * CLIMAX | 27 | 1402 | N12 E24 |
| * CAPRI | 27 | 1423 | N02 E13 |
| * MEUDON | 27 | 1424 | N06 E03 |
| * MC MATH | 27 | 1428 | N10 E12 |
| * MC MATH | 27 | 1432 | N16 W38 |
| * LOCKARNO | 27 | 1525 | N12 W32 |
| * MEUDON | 27 | 1559 | N17 W19 |
| * MC MATH | 27 | 1601 | N08 E90 |
| * MEUDON | 27 | 1604 | N26 E06 |
| LOCKARNO | 27 | 1606 | N16 W37 |
| CLIMAX | 27 | 1608 | N18 E21 |
| * HUANCAYO | 27 | 1611 | N12 E24 |
| * MEUDON | 27 | 1615 | N15 W34 |
| * MC MATH | 27 | 1616 | N15 W39 |
| * HUANCAYO | 27 | 1620 | N17 W36 |
| LOCKARNO | 27 | 1625 | N09 E74 |
| * MC MATH | 27 | 1657 | N15 W30 |
| * MC MATH | 27 | 1708 | N26 W03 |
| * MC MATH | 27 | 1755 | N12 E24 |
| HAWAII | 27 | 1804 | N11 W01 |
| * MC MATH | 27 | 1820 | N16 W31 |
| LOCKHEED | 27 | 1945 | N12 E13 |
| LOCKHEED | 27 | 1955 | N12 E08 |
| HAWAII | 27 | 2000 | N13 E05 |
| LOCKHEED | 27 | 2006 | N13 E73 |
| LOCKHEED | 27 | 2017 | N12 E08 |
| LOCKHEED | 27 | 2041 | N12 E08 |
| HAWAII | 27 | 2054 | N15 W42 |
| HAWAII | 27 | 2056 | N17 W42 |
| * MC MATH | 27 | 2100 | N12 E08 |
| LOCKHEED | 27 | 2101 | N12 E08 |
| LOCKHEED | 27 | 2126 | N12 E08 |
| * MC MATH | 27 | 2155 | N10 E11 |
| LOCKHEED | 27 | 2218 | N09 E12 |
| * MC MATH | 27 | 2233 | N10 E11 |
| HAWAII | 27 | 2234 | N10 E12 |
| CLIMAX | 27 | 2243 | N13 E70 |
| LOCKHEED | 27 | 2245 | N13 E70 |
| LOCKHEED | 27 | 2338 | N10 E70 |
| * MEUDON | 28 | 0545 | N06 E03 |
| * MEUDON | 28 | 0608 | N21 W12 |
| * MEUDON | 28 | 0751 | N10 E65 |
| * MC MATH | 28 | 1157 | N23 W14 |
| * MC MATH | 28 | 1201 | N13 E03 |
| * MC MATH | 28 | 1219 | N12 W44 |
| ZURICH | 28 | 1225 | N23 W16 |
| MC MATH | 28 | 1226 | N14 W06 |
| MC MATH | 28 | 1247 | N26 W13 |
| MC MATH | 28 | 1334 | N12 E64 |
| MEUDON | 28 | 1341 | N06 E02 |
| MC MATH | 28 | 1341 | N08 E00 |
| MC MATH | 28 | 1348 | N13 W07 |
| ARCTERI | 28 | 1445 | N12 E66 |
| MC MATH | 28 | 1500 | N11 E63 |
| SAC PEAK | 28 | 1512 | N12 W11 |
| * MEUDON | 28 | 1520 | N08 E56 |
| * MC MATH | 28 | 1527 | N09 E52 |
| HUANCAYO | 28 | 1546 | N12 E03 |
| MC MATH | 28 | 1548 | N11 E01 |
| MC MATH | 28 | 1548 | N14 W09 |
| MEUDON | 28 | 1550 | N15 W06 |
| HUANCAYO | 28 | 1553 | N15 W09 |
| MC MATH | 28 | 1554 | N09 E52 |
| MC MATH | 28 | 1630 | N09 E52 |
| MC MATH | 28 | 1703 | N09 E50 |
| MC MATH | 28 | 1725 | N09 E50 |
| LOCKHEED | 28 | 1727 | N06 E73 |
| SAC PEAK | 28 | 1732 | N08 E49 |
| MC MATH | 28 | 1745 | N12 E64 |
| LOCKHEED | 28 | 1745 | N18 W22 |
| MC MATH | 28 | 1850 | N25 W17 |
| MC MATH | 28 | 1858 | N11 W02 |
| MC MATH | 28 | 1859 | N09 E49 |
| LOCKHEED | 28 | 1905 | N12 W02 |
| LOCKHEED | 28 | 1905 | N09 E51 |
| MC MATH | 28 | 1930 | N11 E63 |
| MC MATH | 28 | 2015 | N10 W03 |
| MC MATH | 28 | 2021 | N08 E48 |
| HAWAII | 28 | 2022 | N29 E45 |
| MC MATH | 28 | 2023 | N06 E73 |
| MC MATH | 28 | 2031 | N07 E44 |
| MC MATH | 28 | 2033 | N10 E57 |
| MC MATH | 28 | 2040 | N12 E03 |
| MC MATH | 28 | 2050 | N29 E21 |
| LOCKHEED | 28 | 2149 | N10 E02 |
| LOCKHEED | 28 | 2308 | N07 E48 |

SUBFLARES

IIIj

Noted as follows: Date-Universal Time- Coordinates

AUGUST 1959

| | | | | | | | | | | | |
|------------|----|--------|---------|------------|----|--------|---------|-------------|----|--------|---------|
| LOCKHEED | 28 | 2349 | 509 W07 | MCNATH | 29 | 1836 E | 508 W16 | LOCKHEED | 30 | 1958 | N22 W45 |
| LOCKHEED | 29 | 0007 | N13 W13 | HAWAII | 29 | 1850 | N17 W58 | * LOCKHEED | 30 | 2018 | S08 W30 |
| LOCKHEED | 29 | 0019 | N30 E18 | LOCKHEED | 29 | 1851 | N15 W62 | SAC PEAK | 30 | 2032 | S04 E12 |
| LOCKHEED | 29 | 0044 | N10 E57 | MCNATH | 29 | 1855 E | N16 W58 | LOCKHEED | 30 | 2032 | S05 E11 |
| * LOCKHEED | 29 | 0101 | S10 W02 | LOCKHEED | 29 | 1903 | N09 E35 | LOCKHEED | 30 | 2220 | N18 E40 |
| LOCKHEED | 29 | 0124 | N22 W24 | MCNATH | 29 | 1903 E | N09 E35 | LOCKHEED | 30 | 2248 | S12 W31 |
| LOCKHEED | 29 | 0152 | N08 E47 | HAWAII | 29 | 1904 | N19 E35 | SAC PEAK | 30 | 2248 | S13 W31 |
| MEUDON | 29 | 0267 | S22 W30 | HAWAII | 29 | 1906 | S11 W11 | HAWAII | 30 | 2250 | S11 W30 |
| * MEUDON | 29 | 0907 | S11 W10 | MCNATH | 29 | 1910 E | S10 W16 | * SAC PEAK | 30 | 2346 | N10 E11 |
| * MEUDON | 29 | 0941 | N14 W18 | SAC PEAK | 29 | 2052 E | S11 W16 | * CLIMAX | 30 | 2346 | N11 E11 |
| MEUDON | 29 | 1022 | S05 E29 | HAWAII | 29 | 2052 | S09 W17 | SAC PEAK | 30 | 2350 | S12 E78 |
| MCNATH | 29 | 1146 E | S11 W10 | LOCKHEED | 29 | 2136 | N06 E02 | CLIMAX | 30 | 2350 | S14 E77 |
| MCNATH | 29 | 1218 | N12 W14 | LOCKHEED | 29 | 2158 | S11 W12 | * LOCKHEED | 30 | 2351 E | N11 E11 |
| MCNATH | 29 | 1242 | N10 E50 | LOCKHEED | 29 | 2210 | N10 E45 | LOCKHEED | 30 | 2352 | S13 E80 |
| MCNATH | 29 | 1252 | S09 W12 | HAWAII | 29 | 2316 | N15 W67 | LOCKHEED | 31 | 0033 | S08 W35 |
| MCNATH | 29 | 1305 | N10 W59 | LOCKHEED | 29 | 2323 | N20 E62 | * CAPRI S | 31 | 0731 | S11 E68 |
| * MCNATH | 29 | 1311 | N28 W25 | LOCKHEED | 30 | 0017 | S12 W14 | MEUDON | 31 | 0753 E | S14 E78 |
| * CAPRI S | 29 | 1316 E | N29 W25 | HAWAII | 30 | 0018 | S12 W14 | MEUDON | 31 | 0928 | N09 E16 |
| * MCNATH | 29 | 1325 | N16 W59 | LOCKHEED | 30 | 0054 | S12 E90 | MEUDON | 31 | 0943 | N17 E54 |
| * MCNATH | 29 | 1328 | N10 W59 | LOCKHEED | 30 | 0207 | N20 W34 | MEUDON | 31 | 0944 | S14 E76 |
| * MCNATH | 29 | 1415 | N29 E12 | SIMEIZ | 30 | 0606 E | N12 E29 | * STOCKHOLM | 31 | 1032 E | S20 W28 |
| * LOCARNO | 29 | 1420 | N34 E14 | SIMEIZ | 30 | 0633 E | N13 E88 | * MEUDON | 31 | 1226 | N27 W41 |
| MCNATH | 29 | 1445 | N15 W60 | SIMEIZ | 30 | 0635 | N11 E37 | MEUDON | 31 | 1303 | N09 E04 |
| LOCARNO | 29 | 1445 | N14 W61 | SIMEIZ | 30 | 0658 | S12 W21 | CAPRI S | 31 | 1312 E | N10 E05 |
| MCNATH | 29 | 1513 | S12 W12 | SIMEIZ | 30 | 0723 | S12 W34 | MEUDON | 31 | 1332 | S11 W39 |
| * LOCKHEED | 29 | 1523 | N08 E38 | SIMEIZ | 30 | 0731 E | N13 W34 | MCNATH | 31 | 1405 E | N10 E04 |
| * MCNATH | 29 | 1523 | N09 E39 | SAC PEAK | 30 | 1430 | N12 E31 | * MEUDON | 31 | 1447 | N09 E21 |
| * SAC PEAK | 29 | 1526 E | N08 E37 | SAC PEAK | 30 | 1444 | S11 E78 | * MCNATH | 31 | 1457 E | N10 E23 |
| MCNATH | 29 | 1539 | S10 W11 | SAC PEAK | 30 | 1450 | N12 E31 | LOCARNO | 31 | 1509 E | N19 W57 |
| MCNATH | 29 | 1547 | N15 W61 | SAC PEAK | 30 | 1528 | N22 W45 | * CAPRI S | 31 | 1502 E | N10 E21 |
| MCNATH | 29 | 1552 | N18 W33 | LOCKHEED | 30 | 1530 E | N45 W40 | MCNATH | 31 | 1509 E | N21 W59 |
| MCNATH | 29 | 1552 | N09 W11 | SAC PEAK | 30 | 1546 | S18 E05 | * MCNATH | 31 | 1509 E | N10 E04 |
| LOCKHEED | 29 | 1553 | N13 E21 | LOCKHEED | 30 | 1548 | N12 W75 | * LOCARNO | 31 | 1517 | N09 E09 |
| * MCNATH | 29 | 1554 | N13 W20 | SAC PEAK | 30 | 1558 | N21 W46 | * CLIMAX | 31 | 1524 | N10 E03 |
| * SAC PEAK | 29 | 1604 | N12 W20 | LOCKHEED | 30 | 1610 | N11 E38 | * LOCKHEED | 31 | 1525 | N11 E03 |
| MCNATH | 29 | 1640 | N10 E47 | MCNATH | 30 | 1616 E | N13 E38 | * LOCKHEED | 31 | 1537 | N09 E00 |
| LOCKHEED | 29 | 1644 | N09 E47 | MCNATH | 30 | 1640 E | S09 W26 | LOCKHEED | 31 | 1540 | S12 E45 |
| SAC PEAK | 29 | 1646 | N10 E47 | LOCKHEED | 30 | 1646 | S05 E15 | * CLIMAX | 31 | 1543 | S14 E68 |
| LOCKHEED | 29 | 1653 | N25 W26 | MCNATH | 30 | 1655 | N10 E15 | * LOCKHEED | 31 | 1607 | N16 E32 |
| MCNATH | 29 | 1702 | S10 W13 | SAC PEAK | 30 | 1658 | N10 E15 | * LOCKHEED | 31 | 1620 E | N16 E31 |
| MCNATH | 29 | 1710 | N26 W56 | LOCKHEED | 30 | 1709 | N10 E14 | SAC PEAK | 31 | 1630 | N27 W58 |
| * LOCKHEED | 29 | 1720 | N08 E37 | MCNATH | 30 | 1722 | N01 E67 | MCNATH | 31 | 1642 E | N10 E03 |
| * CLIMAX | 29 | 1723 | N07 E37 | * SAC PEAK | 30 | 1740 | S07 W30 | LOCKHEED | 31 | 1708 | N16 E44 |
| MCNATH | 29 | 1729 | N16 W62 | * LOCKHEED | 30 | 1741 | S06 W30 | SAC PEAK | 31 | 1736 | N12 E32 |
| LOCKHEED | 29 | 1730 | N18 W46 | * HAWAII | 30 | 1757 | S07 W30 | MCNATH | 31 | 1743 E | N12 E23 |
| MCNATH | 29 | 1742 | S10 W13 | LOCKHEED | 30 | 1832 | S10 W23 | SAC PEAK | 31 | 1812 | N22 W62 |
| MCNATH | 29 | 1810 E | N16 W62 | MCNATH | 30 | 1844 E | S08 W31 | HAWAII | 31 | 1824 | N12 E01 |
| LOCKHEED | 29 | 1815 | N12 E53 | SAC PEAK | 30 | 1908 | N11 E28 | LOCKHEED | 31 | 1845 | N16 E35 |
| LOCKHEED | 29 | 1820 | N10 W13 | SAC PEAK | 30 | 1908 | N12 E28 | LOCKHEED | 31 | 1934 | N16 E29 |
| LOCKHEED | 29 | 1825 | S07 E23 | LOCKHEED | 30 | 1909 | N12 E28 | * LOCKHEED | 31 | 1953 | S12 W43 |
| LOCKHEED | 29 | 1833 | S08 W17 | SAC PEAK | 30 | 1936 | N15 W77 | * LOCKHEED | 31 | 2025 | S11 W38 |
| HAWAII | 29 | 1834 | S08 W17 | LOCKHEED | 30 | 1937 | N15 W79 | SAC PEAK | 31 | 2050 | S12 E40 |
| | | | | | | | | LOCKHEED | 31 | 2142 | N11 W01 |
| | | | | | | | | CLIMAX | 31 | 2150 | N26 W53 |
| | | | | | | | | * SAC PEAK | 31 | 2150 | N26 W52 |
| | | | | | | | | LOCKHEED | 31 | 2151 | N25 W42 |
| | | | | | | | | HAWAII | 31 | 2152 | N27 W54 |
| | | | | | | | | SAC PEAK | 31 | 2152 | S10 W40 |
| | | | | | | | | LOCKHEED | 31 | 2152 | S10 W40 |
| | | | | | | | | * CLIMAX | 31 | 2235 | S18 W48 |
| | | | | | | | | SAC PEAK | 31 | 2326 | N14 E22 |

*Rated as flare of importance ≥ 1 by other observatories (see CRPL 181 Part B).

CONTINUED - STANDARD FLARES

SOLAR FLARES

JUNE 1959

| OBSERVATORY | DATE JUNE 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | PROVISIONAL IONOSPHERIC EFFECT |
|---|----------------------|----------------------------|--------|-----------------|-------------------------------------|-------------------------------|----------------------|---------------|-----------------|---------------------------|---------------------------|--------------------------------------|
| | | START | END | APPROX. LAT. | APPROX. LONG. PLACE REGION | | | | TIME — UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | |
| ALMA-ATA SIMEIZ | 01 | 0413 E | 0418 | S14 | E42 | 5 D | 16 | 1 | 0414 | | 7.30 | 66 |
| | 01 | 0629 E | 0645 D | S12 | E42 | 16 D | 1 | 2 | 0632 | | 1.40 | 76 |
| ALMA-ATA {ALMA-ATA SIMEIZ SIMEIZ SIMEIZ SIMEIZ | 02 | 0545 E | 0553 | S15 | E53 | 8 D | 1 | 2 | 0545 | | 4.20 | 57 |
| | 02 | 0553 E | 0603 | S12 | E31 | 10 | 1 | 2 | 0558 | | 3.00 | 70 |
| | 02 | 0556 E | 0610 D | S09 | E30 | 14 D | 1 | 2 | 0600 | | 1.50 | 80 |
| | 02 | 0725 E | 0751 D | S12 | E32 | 26 D | 1 | 2 | 0726 | | 2.50 | 84 |
| | 02 | 0856 E | 0859 D | S12 | E30 | 3 D | 1 | 2 | 0859 | | 1.20 | 92 |
| {SIMEIZ GOOD HOPE KRASNYA MOSCOW-G | 03 | 0758 E | 0801 D | S15 | E17 | 3 D | 16 | 2 | 0801 | | 5.20 | 104 |
| | 03 | 0759 E | 0815 | S14 | E17 | 16 | 1 | 2 | 0801 | 3.70 | 4.00 | |
| | 03 | 0840 E | 0933 D | S12 | E22 | 53 D | 1 | 2 | 0845 | | .90 | 78 |
| | 03 | 1111 E | 1113 D | S15 | E09 | 2 D | □ | 1 | | | | |
| SIMEIZ SIMEIZ ONDREJOV | 04 | 0554 E | 0705 D | N12 | E42 | 71 D | 1 | 1 | 0554 | | 2.80 | 80 |
| | 04 | 0554 E | 0650 | S13 | E05 | 56 D | 1 | 1 | 0554 | | 4.00 | 68 |
| | 04 | 1348 | 1410 | S15 | E22 | 22 | 1 | 3 | 1353 | | | |
| | | | | | | | | | | | 2.10 | |
| SIMEIZ ONDREJOV {KRASNYA ONDREJOV ONDREJOV | 05 | 0615 E | 0645 D | N12 | E34 | 30 D | 1 | 1 | 0617 | | 1.50 | 84 |
| | 05 | 0628 E | 0653 | N34 | W54 | 25 | 1 | 3 | 0634 | | | |
| | 05 | 0919 E | 0936 D | S12 | W12 | 17 D | 1 | 2 | 0923 | | .80 | 80 |
| | 05 | 0923 E | 0938 | S12 | W14 | 15 D | 1 | 3 | 0924 | | 2.31 | |
| | 05 | 1657 E | 1757 D | S09 | W16 | 60 D | 1 | 3 | 1704 | | 3.62 | |
| SYDNEY ONDREJOV ONDREJOV {KRASNYA KHARKOV | 06 | 0045 | 0105 | S19 | E46 | 15 | 1 | 2 | 0050 | 1.50 | 2.00 | |
| | 06 | 0610 | 0625 | S07 | W15 | 8 D | 1 | 3 | 0614 | | | |
| | 06 | 0927 E | 0935 | N07 | W06 | 11 D | 1 | 2 | 0927 | | 2.15 | |
| | 06 | 0927 E | 0938 D | N08 | W05 | 14 | 1 | 2 | 0928 | | 2.68 | 92 |
| | 06 | 0927 E | 0941 | N07 | W07 | 14 | 1 | 3 | 0931 | | .90 | |
| {ONDREJOV KRASNYA | 06 | 0939 E | 0953 D | N32 | W72 | 14 | 1 | 2 | 0942 | | 2.80 | |
| | 06 | 0939 E | 0954 D | N35 | W80 | 15 D | 1 | 2 | 0941 | | 3.44 | 76 |
| | 07 | 0434 E | 0453 | S09 | W40 | 9 D | 16 | 1 | 0441 | | 2.00 | |
| | 07 | 0440 E | 0451 | S10 | W39 | 11 D | 1 | 3 | 0445 | | 4.60 | 135 |
| KRASNYA {KRASNYA ONDREJOV ONDREJOV ONDREJOV | 07 | 0730 | 0739 | S08 | W42 | 9 | 1 | 2 | 0732 | | 4.30 | 60 |
| | 07 | 0806 | 0827 | S08 | W42 | 21 | 16 | 2 | 0809 | | 3.00 | |
| | 07 | 0811 | 0829 | S08 | W41 | 18 | 2 | 3 | 0814 | | 2.86 | 80 |
| | 07 | 0837 | 0851 | S08 | W41 | 14 | 1 | 3 | 0841 | | 2.30 | |
| | 07 | 1002 E | 1013 | S13 | W39 | 11 D | 1 | 3 | 1003 | | 3.00 | |
| UCCLE ONDREJOV {MOSCOW-G ONDREJOV | 07 | 1101 | 1102 | S06 | W44 | 4 | 1 | 4 | 1059 | | 2.77 | |
| | 07 | 1058 E | 1102 | N08 | W21 | 4 D | 16 | 3 | 1059 | | 2.30 | 110 |
| | 07 | 1144 E | 1202 D | S08 | W38 | 15 D | 1 | 3 | 1145 | | 11.40 | |
| | 07 | 1145 E | 1200 | S08 | W43 | 15 D | 1 | 3 | 1147 | | 3.40 | |
| | 07 | 1354 E | 1417 D | S08 | W44 | 23 D | 16 | 2 | 1355 | | 3.58 | |
| SYDNEY SYDNEY ONDREJOV SIMEIZ SIMEIZ SIMEIZ | 08 | 0130 | 0143 D | N14 | E67 | 13 D | 1 | 2 | 0136 | 1.50 | 3.00 | |
| | 08 | 0250 | 0326 | N24 | E71 | 36 | 2 | 2 | 0256 | 3.00 | 8.00 | |
| | 08 | 0321 E | 0343 D | S09 | W50 | 22 | 1 | 2 | 0326 | 2.00 | 3.00 | |
| | 08 | 0511 E | 0519 | N14 | E58 | 8 D | 1 | 3 | 0512 | | | |
| | 08 | 0741 E | 0755 D | N22 | E61 | 14 D | 1 | 1 | 0741 | | 2.09 | 84 |
| SIMEIZ SIMEIZ SIMEIZ | 08 | 0746 E | 0810 D | S09 | W54 | 24 D | 1 | 1 | 0803 | | 2.00 | 96 |
| | 08 | 0815 E | 0830 D | N14 | E58 | 15 D | 1 | 1 | 0820 | | 1.70 | 84 |
| | 08 | 0835 E | 0840 D | S09 | W54 | 5 D | 1 | 1 | 0836 | | 2.00 | 100 |

SOLAR FLARES

JUNE 1959

| OBSERVATORY | DATE JUNE 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT |
|--------------|----------------------|----------------------------|--------|---------------|-----------------|---------------|-------------------------------|----------------------|---------------|------------------------------|------------------|---------------------------|---------------------------|--------------------------------------|
| | | START | END | MAX. PHASE | APPROX. LAT. | MER. DIST. | | | | MAGNITUDE PLAGE REGION | TIME — U T | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | |
| ONDREJOV | 08 | 1222 E | 1239 | | N22 E50 | 5198 | 17 D | 16 | 2 | 1228 | | | 1.97 | S-SWF |
| | 08 | 1443 E | 1520 | 1451 | N09 W13 | 5185 | 37 D | 16 | 3 | 1451 | | | 2.58 | |
| SYDNEY | 09 | 0430 | 0519 D | 0503 | S31 E20 | 5194 | 49 | 1 | 2 | 0503 | 2.00 | 3.00 | | |
| OTTAWA | 09 | 1609 | 1622 | 1611 | S20 E00 | 5194 | 13 | 1 | 4 | 1611 | 1.97 | 2.11 | | |
| LOCKHEED | 09 | 1910 E | 1919 | | N11 W27 | 5185 | 9 D | 1 | 2 | 1910 | 2.20 | | | |
| OTTAWA | 10 | 1559 | 1617 D | 1604 | N06 E10 | 5201 | 18 D | 1 | 4 | 1604 | 2.15 | 2.20 | | |
| { SYDNEY | 11 | 0027 | 0107 | | N18 E24 | 5198 | | 1 | 1 | 0033 | 2.00 | 2.00 | | |
| { LOCKHEED | 11 | 0029 | 0113 | 0033 | N18 E26 | 5198 | 44 | 1 | 3 | | 2.20 | | | |
| SYDNEY | 11 | 0136 | 0143 | | N20 E90 | 5204 | 7 | □ | 2 | | | | | |
| SYDNEY | 11 | 0148 | 0205 | 0151 | N15 E87 | 5204 | 17 | □ | 2 | 0151 | .75 | | 68 | |
| VOROSHILOV | 11 | 0152 | 0159 | 0153 | N24 E27 | 5205 | 7 | 1 | 1 | 0153 | | 3.16 | 130 | |
| { TASHKENT | 11 | 0304 E | 0315 D | 0306 | S12 W85 | 5179 | 11 D | 1 | 1 | | 1.00 | | | |
| { SYDNEY | 11 | 0305 | 0312 | 0308 | S12 W90 | 5179 | 7 | □ | 2 | 0308 | | | | |
| { SYDNEY | 11 | 0332 | 0347 | 0339 | N13 E23 | 5197 | 15 | 1 | 2 | 0339 | 1.50 | 2.00 | | |
| { ALMA-ATA | 11 | 0344 E | 0406 | 0345 | N16 E21 | 5197 | 22 D | 1 | 3 | 0345 | 1.70 | | 57 | |
| SYDNEY | 11 | 0432 | 0452 | 0447 | N15 E86 | 5204 | 20 | □ | 2 | 0447 | 1.50 | | | |
| SYDNEY | 11 | 0445 | 0454 | 0447 | S14 W90 | 5179 | 9 | □ | 2 | 0447 | .75 | | | |
| KRASNYA | 11 | 0801 | 0806 | 0803 U | S09 W90 | 5179 | 5 | 1 | 2 | 0803 | 2.30 | | 60 | |
| KRASNYA | 11 | 0802 | 0818 | 0807 U | N16 W80 | 5185 | 16 | 1 | 2 | 0807 | 3.20 | | 60 | |
| KRASNYA | 11 | 0831 | 0840 | 0831 U | N14 E88 | 5204 | 9 | 1 | 2 | 0831 | 6.00 | | 64 | |
| VOROSHILOV | 11 | 2209 | 2212 | 2210 | N15 E82 | 5204 | 3 | 1 | 2 | 2210 | | 4.72 | 78 | |
| SYDNEY | 12 | 0331 | 0344 | 0333 | N19 E77 | 5204 | 13 | 1 | 2 | 0333 | .75 | 2.50 | | |
| { ABASTUMANI | 12 | 0503 | 0609 D | 0527 | N15 E09 | 5197 | 66 D | 1 | 2 | 0528 | | 3.70 | 68 | |
| { TIME12 | 12 | 0600 E | 0608 D | 0603 U | N14 E07 | 5197 | 8 D | 1 | 2 | 0603 | | 1.00 | 104 | |
| { TIME12 | 12 | 0627 E | 0655 D | 0633 U | N14 E07 | 5197 | 28 D | 16 | 2 | 0643 | | .50 | 104 | |
| { ABASTUMANI | 12 | 0628 | 0700 D | 0647 | N14 E08 | 5197 | 32 D | 1 | 2 | 0647 | | 1.10 | 73 | |
| { KASNYA | 12 | 0719 | 0730 | 0723 U | N22 E66 | 5204 | 11 | 1 | 2 | 0723 | 3.50 | | 65 | |
| { TIME12 | 12 | 0720 E | 0730 D | 0723 U | N19 E70 | 5204 | 10 D | 1 | 2 | 0723 | 5.00 | | 68 | |
| { TIME12 | 12 | 0734 E | 0907 D | 0741 U | N24 E60 | 5204 | 93 D | 2 | 2 | 0907 | 14.00 | 4.30 | 120 | |
| { KASNYA | 12 | 0735 | 1001 | 0910 U | N22 E66 | 5204 | 146 | 2 | 2 | 0910 | | 9.20 | 110 | |
| { ABASTUMANI | 12 | 0737 | 0913 D | 0832 U | N23 E61 | 5204 | 96 D | 26 | 2 | 0840 | 23.20 | 2.50 | 86 | |
| { TIME12 | 12 | 0750 E | 0810 D | 0753 U | N17 E12 | 5197 | 20 D | 1 | 2 | 0753 | 1.00 | 1.90 | 92 | |
| { ABASTUMANI | 12 | 0750 | 0818 D | 0757 | N16 E13 | 5197 | 28 D | 1 | 2 | 0757 | 2.10 | | 68 | |
| MOSCOW-G | 12 | 0901 E | 1159 D | | N19 E64 | 5204 | 178 D | 26 | 2 | 0915 | 36.46 | 2.20 | 120 | |
| | 12 | 0953 | 1030 D | 0953 | S03 E90 | 5208 | 37 D | 16 | 1 | 1006 | 10.10 | 2.00 | | |
| KHARKOV | 12 | 1002 E | 1007 D | | N20 E65 | 5204 | 5 D | 2 | 1 | 1002 | | 1.40 | | |
| DUNSINK | 12 | | | | | | | | | | | | | |
| TASHKENT | 13 | 0357 | 0408 | 0358 | N18 E61 | 5204 | 11 | 16 | 3 | 0359 | | 5.00 | 4.70 | |
| UCCLE | 13 | 1051 | 1140 | | N17 E27 | 5204 | 49 | 2 | 4 | | | | | |
| SYDNEY | 14 | 0256 | 0315 | 0304 | N26 E78 | 5212 | 19 | 1 | 2 | 0304 | .75 | 3.00 | | |
| SYDNEY | 14 | 0326 | 0335 | 0329 | S17 W59 | 5194 | 9 | 1 | 2 | 0329 | 1.00 | 2.00 | | |
| { ABASTUMANI | 14 | 0632 E | 0651 D | 0639 U | N18 E41 | 5204 | 19 D | 16 | 3 | | | | | |
| { KHARKOV | 14 | 0637 E | 0709 | | N23 E43 | 5204 | 32 D | 16 | 1 | 0642 | | 8.50 | 1.50 | |
| SYDNEY | 15 | 0119 | 0216 | 0129 | N25 E26 | 5204 | 57 | 1 | 2 | 0129 | 2.00 | 3.00 | | |
| { SYDNEY | 15 | 0232 E | 0350 | 0302 | N20 E28 | 5204 | 78 D | 3 | 2 | 0302 | 11.00 | 14.00 | | |
| { TASHKENT | 15 | 0255 E | 0420 | | N20 E28 | 5204 | 85 D | 2 | 2 | 0302 | | 16.00 | 2.70 | |
| | | | | | | | | | | | | | 135 | |
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| OBSERVATORY | DATE JUNE 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | | |
|---|----------------------|----------------------------|--------|---------------|---------|--------------|-------------------------------|----------------------|---------------|---------------------------|---------------------------|---------------------|-------------------|--------------------------------------|----------------|-------|
| | | START | END | MAX. PHASE | APPROX. | | | | | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | MAX. WIDTH Ha | MAX. INT. % | | | |
| | | | | | LAT. | MR. DIST. | | | | | | | | | REGION | |
| { TASHKENT ABASTUMANI ONDREJOV ONDREJOV ONDREJOV LOCKHEED | 15 | 0520 | 0609 D | 0545 | N16 | E30 | 5204 | 49 D | 1 | 2 | 0550 | 4.00 | 2.00 | 80 | G-SWF S-SWF | |
| | 15 | 0539 | E 0624 | U 0548 | N16 | E29 | 5204 | 45 D | 16 | 3 | 0600 | 6.50 | 2.00 | | | |
| | 15 | 0546 | E 0625 | | N18 | E26 | 5204 | 39 D | 16 | 3 | 0552 | | 2.13 | | | |
| | 15 | 1053 | E 1144 | 1059 | N16 | E30 | 5204 | 51 D | 2 | 3 | 1059 | | 3.22 | | | |
| | 15 | 1626 | E 1639 | 1628 | N15 | E25 | 5204 | 13 D | 2 | 3 | 1628 | | 3.30 | | | |
| | 15 | 1629 | E 1715 | | N16 | E25 | 5204 | 46 D | 1 | 3 | 1629 | 2.50 | | | | |
| { ABASTUMANI SIMEIZ PIRCOLI VOROSHILOV VOROSHILOV | 16 | 0621 | E 0800 | D 0627 | N15 | E15 | 5204 | 99 D | 26 | 1 | 0627 | 23.50 | | 139 | S-SWF | |
| | 16 | 0649 | E 0901 | D 0700 | N18 | E15 | 5204 | 132 D | 2 | 1 | 0649 | 22.00 | 2.00 | 160 | | |
| | 16 | 0700 | E 0730 | D 0700 | N15 | E15 | 5204 | 30 D | 3 | 3 | 0700 | 26.75 | | 66 | | |
| | 16 | 2157 | 2220 | 2200 | N17 | E08 | 5204 | 23 | 1 | 2 | 2200 | 2.29 | | 60 | | |
| | 16 | 2327 | 0123 | D 0123 | N14 | E10 | 5204 | 116 D | 1 | 2 | 0108 | 2.34 | | | | |
| | 17 | 0224 | 0233 | 0226 | N14 | E77 | 5219 | 9 | 1 | 2 | 0226 | 1.50 | 5.00 | | | |
| { SYDNEY SYDNEY SIMEIZ SIMEIZ ONDREJOV ONDREJOV ONDREJOV ONDREJOV ONDREJOV DUNSTINK LOCKHEED VOROSHILOV SYDNEY | 17 | 0245 | 0305 | 0255 | N16 | F80 | 5219 | 60 | 2 | 2 | 0255 | 5.00 | | 68 | Slow S-SWF | |
| | 17 | 0611 | E 0650 | D 0618 | N18 | E03 | 5204 | 39 D | 1 | 1 | 0618 | 2.10 | | 72 | | |
| | 17 | 0649 | E 0725 | D 0654 | N24 | E69 | 5219 | 36 D | 1 | 1 | 0655 | 3.30 | 1.70 | | | |
| | 17 | 0653 | 0712 | | N21 | E62 | 5219 | 19 | 1 | 2 | 0655 | | 2.20 | | | |
| | 17 | 0953 | 1015 | 0957 | N16 | E02 | 5204 | 22 | 1 | 3 | 0957 | | 2.50 | | | |
| | 17 | 1341 | 1346 | 1342 | N13 | E65 | 5219 | 5 | 1 | 3 | 1342 | | 2.20 | | | |
| 17 | 1427 | 1515 | 1436 | N17 | W01 | 5204 | 48 | 2 | 3 | 1436 | 7.50 | 3.00 | | | | |
| 17 | 1427 | 1526 | | N18 | E00 | 5204 | 59 | 2 | 2 | 1435 | 5.40 | 2.95 | | | | |
| 17 | 1448 | E 1604 | | N18 | W02 | 5204 | 76 D | 2 | 2 | 1502 | | | 66 | | | |
| 17 | 2321 | E 2341 | | N13 | E67 | 5219 | 20 D | 16 | 2 | 2326 | 7.48 | | | | | |
| 17 | 2322 | E 2347 | | N15 | E68 | 5219 | 25 D | 1 | 2 | 2322 | 2.00 | | | | | |
| { VOROSHILOV VOROSHILOV SIMEIZ ONDREJOV DUNSTINK DUNSTINK ONDREJOV ONDREJOV LOCKHEED | 18 | 0014 | 0029 | 0017 | N10 | E68 | 5219 | 15 | 1 | 1 | 0017 | 3.23 | | 71 | | S-SWF |
| | 18 | 0058 | 0150 | 0102 | N19 | W07 | 5204 | 52 | 1 | 1 | 0102 | 3.37 | | 69 | | |
| | 18 | 0645 | E 0700 | D 0649 | N19 | W12 | 5204 | 15 D | 1 | 1 | 0649 | 3.50 | | 76 | | |
| | 18 | 1104 | E 1138 | | N07 | E58 | 5219 | 34 D | 2 | 3 | 1120 | | 3.10 | | | |
| | 18 | 1123 | E 1126 | D 1126 | N06 | E61 | 5219 | 3 D | 2 | 1 | 1123 | 5.00 | 1.95 | | | |
| | 18 | 1145 | E 1227 | | N19 | W14 | 5204 | 42 D | 26 | 3 | 1147 | 10.30 | 3.90 | | | |
| { SYDNEY KRASNAYA KRASNAYA LOCKHEED DUNSTINK UCCLE ONDREJOV DUNSTINK VOROSHILOV LOCKHEED | 18 | 1229 | E 1305 | | N04 | E57 | 5219 | 36 D | 2 | 3 | 1233 | | 3.60 | | Slow S-SWF | |
| | 18 | 1926 | E 2006 | | N15 | W15 | 5204 | 40 D | 1 | 3 | 1927 | 2.50 | | | | |
| | 19 | 0244 | 0251 | 0247 | N08 | E46 | 5219 | 7 | 1 | 2 | 0247 | 1.00 | 2.00 | | | |
| | 19 | 0757 | E 0815 | U 0757 | N13 | W23 | 5204 | 18 D | 1 | 2 | 0757 | 2.30 | | 75 | | |
| | 19 | 0843 | E 0920 | 0852 | N11 | E23 | 5219 | 37 D | 1 | 2 | 0852 | 1.70 | | 90 | | |
| | 19 | 1607 | 1739 | 1642 | N17 | W29 | 5204 | 92 | 1 | 2 | | 4.00 | | | | |
| { DUNSTINK UCCLE ONDREJOV DUNSTINK VOROSHILOV LOCKHEED | 19 | 1625 | E 1634 | | N21 | W30 | 5204 | 9 D | 1 | 1 | 1628 | 2.50 | 2.75 | | S-SWF | |
| | 19 | 1632 | E 1656 | D 1656 | N15 | W30 | 5204 | 24 D | 16 | 2 | | | 2.10 | | | |
| | 19 | 1634 | E 1638 | | N15 | W40 | 5204 | 4 D | 1 | 3 | 1634 | 7.17 | 2.10 | | | |
| | 19 | 1734 | 1757 | | N17 | W30 | 5204 | 23 | 2 | 2 | 1739 | 2.40 | 1.90 | | | |
| | 19 | 2312 | 0021 | 2319 | N19 | W35 | 5204 | 69 | 16 | 1 | 2319 | 6.25 | 1.90 | 80 | | |
| | 19 | 2313 | 2353 | 2318 | N17 | W35 | 5204 | 40 | 1 | 3 | | 2.50 | | | | |
| { SIMEIZ SIMEIZ SIMEIZ KHARKOV | 20 | 0604 | 0625 | 0609 | N16 | W35 | 5204 | 21 | 1 | 2 | 0607 | 2.50 | 1.80 | 88 | S-SWF | |
| | 20 | 0622 | E 0700 | D 0627 | N22 | W40 | 5204 | 38 D | 1 | 2 | 0630 | 1.40 | 1.70 | 100 | | |
| | 20 | 0658 | E 0705 | D 0700 | N17 | W34 | 5204 | 7 D | 1 | 2 | 0659 | 1.20 | 1.50 | 92 | | |
| | 20 | 1017 | 1033 | 1022 | N17 | W03 | 5211 | 16 | 1 | 1 | 1022 | 4.40 | 1.50 | | | |
| { SIMEIZ SIMEIZ | 21 | 0631 | E 0745 | D 0636 | N25 | W44 | 5204 | 74 D | 1 | 1 | 0636 | 2.00 | | 52 | S-SWF | |
| | 21 | 0652 | E 0730 | D 0659 | N21 | W54 | 5204 | 38 D | 1 | 1 | 0659 | 4.00 | | 84 | | |

SOLAR FLARES

JUNE 1959

| OBSERVATORY | DATE JUNE 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | | PROVISIONAL IONOSPHERIC EFFECT | | |
|--------------|-------------------|----------------------------|--------|---------------|-----------------|---------------|-------------------------------|----------------------|---------------|----------------------------|-----------------|---------------------------|---------------------------|--------------------------------------|---------------------------------|-------------------|
| | | START | END | MAX. PHASE | APPROX. LAT. | MER. DIST. | | | | MC-MATH PLAGE REGION | TIME — UT | MEAS. AREA Sq. Deg. | CORR. AREA Sq. Deg. | | MAX. WIDTH H _p | MAX. INT. % |
| ABASTUMANI | 21 | 0657 E | 0720 D | 0700 U | N21 W52 | 5204 | 23 D | 1 | 2 | 0700 | | 3.20 | 3.20 | 71 | | |
| | 22 | 0949 E | 1010 | | N13 W44 | 5211 | 21 D | 1 | 3 | 0954 | | | 2.20 | | | |
| | 22 | 1010 E | 1039 D | 1010 | N15 W44 | 5211 | 29 D | 1 | 2 | 1010 | | 11.20 | | | | |
| | 22 | 1012 | 1019 | 1013 | N18 W66 | 5204 | 7 | 1 | 2 | 1013 | | | 2.60 | | | |
| | 22 | 1013 | 1125 | | N20 W67 | 5204 | 12 | 2 | 3 | | | | | | | |
| | 22 | 1014 | 1140 D | 1032 | N17 W69 | 5204 | 86 D | 3 | 2 | 1035 | | 32.90 | 2.70 | | S-SWF | |
| | 22 | 1015 E | 1123 D | 1040 | N18 W68 | 5204 | 68 D | 2 | 2 | 1040 | | 53.86 | | | | |
| | 22 | 1025 | 1127 D | 1030 | N20 W68 | 5204 | 62 D | 2 | 2 | 1030 | | | 4.50 | 50 | | |
| | 22 | 1112 E | 1125 | 1112 U | N20 W70 | 5204 | 13 D | 16 | 2 | | | 7.44 | | | G-SWF | |
| | 22 | 1855 | 1911 | 1857 | N11 W02 | 5219 | 16 | 1 | 3 | | 2.40 | | | | | |
| | 23 | 0312 | 0420 | 0337 | N14 E01 | 5219 | 68 | 1 | 2 | 0337 | | 4.00 | 4.00 | 80 | | |
| | 23 | 0324 | 0350 | 0337 | N22 W05 | 5219 | 26 | 1 | 3 | 0337 | | 3.00 | 3.10 | 62 | | |
| | 23 | 0347 | 0427 | 0354 | N17 W04 | 5219 | 40 | 2 | 3 | 0400 | | 11.00 | 2.50 | 85 | | |
| | 23 | 0553 E | 0612 D | | S16 E69 | 5230 | 19 D | 16 | 1 | 0553 | | 6.20 | | 80 | | |
| | 23 | 0553 E | 0640 D | | N19 E33 | 5225 | 47 D | 1 | 1 | 0553 | | 2.30 | | 84 | | |
| | 23 | 0829 E | 0839 | | N23 E05 | 5219 | 10 D | 1 | 3 | 0831 | | | 2.10 | 80 | | |
| | 23 | 0829 E | 0845 D | 0831 U | S25 E05 | 5223 | 16 D | 1 | 1 | 0831 | | 1.10 | | | S-SWF | |
| | 23 | 1103 | 1114 | | N20 E65 | 5228 | 11 | 1 | 2 | | | | | | | |
| | 23 | 1106 E | 1112 | | N24 E05 | 5219 | 6 D | 1 | 3 | 1106 | | | 2.50 | | | |
| | 23 | 1112 E | 1116 | | N15 W12 | 5219 | 4 D | 1 | 3 | 1112 | | | 2.30 | | | |
| | 23 | 1348 | 1411 | | N10 E38 | 5227 | 23 | 1 | 2 | 1406 | | | 1.90 | | | |
| | 23 | 1352 E | 1523 | | N12 E39 | 5227 | 91 D | 1 | 4 | 1400 | 1.86 | 2.44 | | | | |
| | 23 | 1406 E | 1440 D | | N08 E25 | 5225 | 34 D | 2 | 2 | 1406 | 5.00 | 5.50 | 1.52 | | | |
| | 23 | 1649 | 1720 | 1651 | N24 W01 | 5219 | 31 | 1 | 3 | | 2.40 | | | | | |
| | 23 | 1649 | 1718 | 1654 | N09 E26 | 5225 | 29 | 1 | 3 | | 2.10 | | | | S-SWF | |
| | 23 | 1649 E | 1751 D | | N09 E26 | 5225 | 62 D | 1 | 2 | 1703 | 3.13 | 3.52 | | | | |
| | 24 | 1410 | 1416 | 1412 | S17 E51 | 5230 | 6 | 1 | 3 | 1412 | | | 2.50 | | | |
| | 24 | 1606 | 1628 | 1611 | N11 E13 | 5225 | 22 | 1 | 3 | 1611 | | | 2.30 | | | |
| | { ONDREJOV | 25 | 0652 | 0722 D | | N11 E04 | 5225 | 30 D | 1 | 2 | 0707 | | | 2.30 | | |
| | | 25 | 0656 | 0750 D | 0659 U | N11 E05 | 5225 | 54 D | 1 | 1 | 0659 | | 3.50 | 1.80 | 100 | |
| 25 | | 0657 E | 0708 D | 0705 U | N10 E06 | 5225 | 11 D | 16 | 2 | 0704 | | 4.40 | 3.00 | 100 | | |
| { ABASTUMANI | | 25 | 0852 E | | | S07 W74 | 5211 | | 1 | 1 | 0852 | | 2.80 | | 70 | |
| | | 26 | 0314 | 0352 | 0320 | N22 E26 | 5228 | 38 | 1 | 3 | 0317 | | 2.00 | 2.10 | 70 | |
| { TASHKENT | 26 | 0411 | 0453 | 0422 | N10 W08 | 5225 | 42 | 1 | 3 | 0421 | | 5.00 | 2.80 | 85 | | |
| | 26 | 0417 | 0433 | 0419 | N07 W05 | 5225 | 16 | 1 | 2 | 0419 | | 2.00 | 2.50 | 62 | | |
| | 26 | 0417 | 0433 | 0421 | N11 W04 | 5225 | 16 | 1 | 2 | 0421 | | 1.20 | 1.30 | 73 | | |
| | 26 | 0417 | 0433 | 0427 | N12 W04 | 5225 | 16 | 1 | 2 | 0427 | | 4.00 | 4.80 | 71 | | |
| | 26 | 0417 | 0441 | 0421 | N07 W08 | 5225 | 24 | 1 | 2 | 0421 | | 3.00 | 4.50 | 57 | | |
| | 26 | 0420 E | 0439 | | N08 W06 | 5225 | 19 D | 1 | 1 | 0420 | 2.00 | 2.00 | | | | |
| | 26 | 0917 E | 0921 D | | N34 E70 | 5241 | 4 D | 1 | 1 | 0919 | | | 1.50 | 70 | | |
| | 26 | 0919 | 0921 D | 0920 | N24 E67 | 5241 | 2 D | 1 | 1 | 0920 | | 2.60 | | | | |
| | { KRASNAYA | 26 | 1055 E | 1106 D | 1059 | N29 E62 | 5241 | 11 D | 1 | 1 | 1059 | | 2.70 | 2.40 | 120 | |
| | { MOSCOW-G | 26 | 1058 E | 1103 | | N29 E67 | 5241 | 5 D | 1 | 3 | 1059 | | | 2.20 | | |
| { ONDREJOV | 27 | 0043 E | 0055 | 0050 | N24 E62 | 5241 | 7 D | 1 | 2 | 0050 | 1.00 | 2.00 | | | | |
| | 27 | 0146 | 0208 | 0155 | N24 E61 | 5241 | 22 | 1 | 2 | 0155 | 1.50 | 3.00 | | | | |
| | { SYDNEY | 27 | 0310 E | 0320 | N27 E61 | 5241 | | 1 | 1 | 0312 | 1.00 | 3.00 | | | | |
| | { SYDNEY | 27 | 0320 | 0330 | N24 E60 | 5241 | 10 | 1 | 1 | 0325 | 1.00 | 2.00 | | | | |

COMMENCE - STANDARD - BOULDER

SOLAR FLARES

JUNE 1959

| OBSERVATORY | DATE JUNE 1959 | OBSERVED UNIVERSAL TIME | | LOCATION | | DURA- TION — MINUTES | IM- POR- TANCE | OBS. COND. | MEASUREMENTS | | | PROVISIONAL IONOSPHERIC EFFECT |
|-------------|----------------------|----------------------------|--------|----------|------|-------------------------------|----------------------|---------------|-----------------|---------------------------|---------------------------|--------------------------------------|
| | | START | END | LAT. | LON. | | | | TIME — UT | MEAS. AREA Sq. Deg. | COBR. AREA Sq. Deg. | |
| SYDNEY | 27 | 0338 E | 0343 | N25 E59 | 5241 | 5 D | 1 | 1 | 0340 | 1.00 | 2.00 | |
| TASHKENT | 27 | 0515 | 0534 | N08 W22 | 5225 | 19 | 16 | 2 | 0517 | | 6.00 | |
| ONDREJOV | 27 | 0631 | 0642 | N25 W01 | 5233 | 11 | 1 | 3 | 0637 | | 1.80 | 65 |
| KRASNAYA | 27 | 0656 | 0702 | N27 E53 | 5241 | 6 | 1 | 3 | 0658 | | 2.40 | |
| KRASNAYA | 27 | 0705 | 0712 | N10 W26 | 5225 | 7 | 1 | 2 | 0705 | | 1.00 | 65 |
| KRASNAYA | 27 | 0815 | 0824 | N00 W74 | 5243 | 9 | 1 | 2 | 0819 | | 3.00 | 56 |
| KRASNAYA | 27 | 0833 | 0840 | N31 E68 | 5241 | 7 | 1 | 2 | 0836 | | 3.50 | 78 |
| KHARKOV | 27 | 0939 | 0958 D | N00 W74 | 5243 | 19 D | 1 | 2 | 0945 | | 2.60 | 65 |
| KHARKOV | 27 | 0940 E | 1010 | N27 W03 | 5233 | 30 D | 1 | 2 | 0946 | | 2.90 | |
| KHARKOV | 27 | 0943 E | 1010 | S17 E11 | 5230 | 27 D | 1 | 1 | 0946 | | 1.50 | |
| MOSCOW-G | 27 | 1030 E | 1134 D | N27 E53 | 5241 | 64 D | 1 | 1 | | | 2.50 | |
| LOCKHEED | 27 | 1645 | 1719 | N08 W27 | 5225 | 34 | 1 | 2 | | 2.40 | | 80 |
| SYDNEY | 28 | 0346 | 0405 | N16 W45 | 5219 | 19 | 1 | 1 | 0350 | 1.50 | 2.00 | |
| KRASNAYA | 28 | 0831 E | 0946 | N18 W09 | 5228 | 75 D | 16 | 2 | 0842 | | 3.10 | 85 |
| SIMEIZ | 28 | 0827 E | 0848 D | N18 W10 | 5228 | 21 D | 16 | 1 | 0832 | | 6.00 | 84 |
| TASHKENT | 29 | 0508 | 0520 | N09 W49 | 5225 | 12 | 1 | 3 | 0511 | | 2.00 | 95 |
| PIRCULI | 29 | 0653 E | 0705 D | N35 W20 | 5233 | 12 D | 1 | 1 | | | 12.43 | |
| SIMEIZ | 29 | 0854 E | 0911 D | S13 E30 | 5234 | 17 D | 16 | 1 | 0911 | | 6.70 | 80 |
| KRASNAYA | 29 | 0903 E | 0949 | S23 E30 | 5234 | 46 D | 16 | 2 | 0910 | | 3.40 | 90 |
| MOSCOW-G | 29 | 0907 E | 1020 D | S25 E32 | 5234 | 73 D | 2 | 2 | 0916 | | 11.97 | 120 |
| KHARKOV | 29 | 0910 | 0938 D | S22 E27 | 5234 | 28 D | 1 | 2 | 0925 | | 2.20 | |
| KHARKOV | 29 | 0910 | 0938 D | S24 E33 | 5234 | 28 D | 1 | 2 | | | 4.40 | |
| PIRCULI | 29 | 0915 E | 0940 D | S20 E30 | 5234 | 25 D | 2 | 1 | | | 13.86 | |
| DUNSINK | 29 | 0940 E | 0959 D | S13 E25 | 5234 | 19 D | 1 | 2 | 0940 | 5.00 | 5.50 | |
| GOOD HOPE | 29 | 1310 | 1324 D | S16 E29 | 5234 | 14 D | 2 | 2 | 1316 | 5.00 | 6.00 | |
| KIEV | 29 | 1314 E | 1337 D | S16 E29 | 5234 | 23 D | 1 | 2 | 1313 | | 2.18 | 64 |
| VOROSHILOV | 29 | 2132 | 2257 | S15 W22 | 5230 | 85 | 16 | 2 | 2134 | | 3.63 | 86 |
| TASHKENT | 30 | 0347 | 0402 | N08 W44 | 5227 | 15 | 1 | 2 | 0356 | | 1.00 | 50 |
| SIMEIZ | 30 | 0728 E | 0745 | S14 W29 | 5230 | 17 D | 1 | 2 | 0728 | | 3.30 | 140 |
| KRASNAYA | 30 | 0729 | 0736 | S14 W27 | 5230 | 7 | 16 | 2 | 0731 | | 1.60 | 105 |
| GOOD HOPE | 30 | 0731 E | 0740 | S14 W28 | 5230 | 9 D | 1 | | | 1.80 | 2.10 | |
| GOOD HOPE | 30 | 1308 | 1330 | N09 W70 | 5225 | 22 | 1 | | 1314 | 1.00 | 2.90 | |

These flare reports are addenda to the June 1959 flares published in CRPL-F 179 Part B, July 1959.

COMMENCE - STANDARD - BOULDER

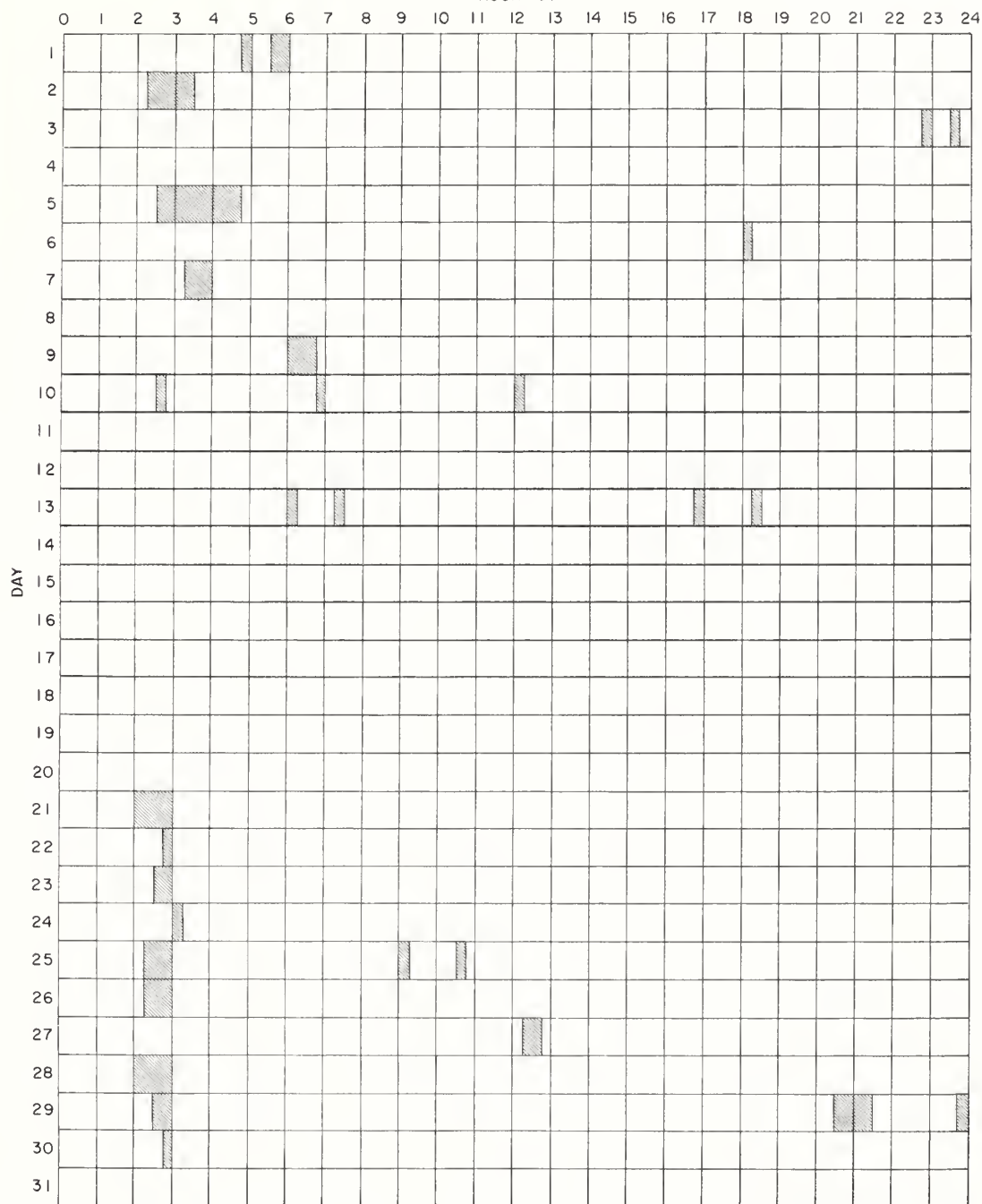
| | | | | |
|------------|--------------------------------------|---|-----------|-------------------------------------|
| CAPRI G | ANACAPRI - GERMAN | MOSCOW - GAISH | SAC PEAK: | ALL VALUES IN MAX. INT. COLUMN ARE |
| CAPRI S | ANACAPRI - SWEDISH | ROYAL OBSERVATORY, EDINBURGH | | ARBITRARY UNITS (0-40), NOT PERCENT |
| GOOD HOPE | ROYAL OBSERVATORY, CAPE OF GOOD HOPE | GREENWICH ROYAL OBSERVATORY, HERSTMONCEUX | | OF CONTINUOUS SPECTRUM. |
| KIEV* | KIEV UNIVERSITY | SAC PEAK | | E - LESS THAN |
| KODAIKANAL | KODAIKANAL | SCHAUINSLAND | | D - GREATER THAN |
| KRASNAYA | KRASNAYA PAKHRA | UNITED STATES NAVAL RESEARCH LABORATORY | | U - APPROXIMATE |
| LOCKHEED | LOS ANGELES | | | - NOT REPORTED |

INTERVALS OF NO FLARE PATROL OBSERVATIONS

IIIp

JUNE 1959

HOURLY-UT



Stations Include:

COMMERCE - STANDARDS - BOULDER

| | | | |
|--------------------|-------------------|-----------------------------|-----------------|
| Abastumani | Kiev GAO | Nederhorst | Sacramento Peak |
| Alma Ata | Kodaikanal | Nizamiah | Simeiz |
| Anacapri (Swedish) | Krasnaya Pakhra | Ondrejov | Sydney |
| Arcetri | Locarno | Ottawa | Tashkent |
| Climax | Lockheed | Pirculi | Uccle |
| Dunsink | McMath | Royal Observatory | Utrecht |
| Hawaii | Meudon | Cape of Good Hope | Voroshilov |
| Huancayo | Mitaka | Royal Greenwich Observatory | Zurich |
| Kharkov | Moscow University | Herstmonceux | |

IONOSPHERIC EFFECTS OF SOLAR FLARES

(Sudden Cosmic Noise Absorption
 (Sudden Enhancements Of Atmospherics)
 Solar Noise Bursts At 18 Mc.

MARCH, 1959

| Mar. 1959 | CLASS | | | DEFINITENESS | TIME (UNIVERSAL TIME) | | | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|----------------------------------|-------|------------------------|-------|----------------------------|--|--|--|-------------------------------|--|
| | SCNA | SEA | Burst | | BEGIN | MAX. | END | | |
| { 2 2 5 5 | 2 | 1 2+ | | 5 5 3 3 | 2314 2319 1346 1457 | 2333 2323 1355 1515 | 0026 0034 1435 | 60 | A7, BO, <u>HA</u> BO, <u>HA</u> A1, <u>A5</u> , A6 <u>A1</u> , A5, A6 |
| { 5 5 7 7 11 | 3 | 3 3 1+ | | 5 5 5 5 5 | 1525 1526 1727 1728 1136 | 1532 1534 1743 1750 1142 | 1600 1615 1810 1910 1220 | 70 60 | BO, <u>MC</u> , RE A2, A7, BO, DU, ED, <u>MC</u> , NE, PA BO, <u>MC</u> , RE A5, A7, BO, DU, ED, NE <u>ED</u> , NE, PA, PU |
| { 11 11 11 11 11 | 2 | 2 2 | | 5 5 5 5 5 | 1409 1808 1809 2020 2020 | 1421 1817 1817 2022 2031 | 1446 1850 1910 2040 2050 | 60 19 | A1, A5, ED, NE BO, <u>HA</u> , MC, RE, SP A1, <u>A5</u> , A6, A7, BO ED, HA, <u>MC</u> BO, <u>HA</u> A1, A5, A6, A7, BO, <u>HA</u> , PA |
| 15 15 16 16 16 | 2 | 1+ 1+ 1 1 | | 1 4 1 4 | 1135 1216 0050 0053 0917 | 1150 1223 0054 0100 0926 | 1150 1252 0144 0131 1006 | 50 | PU DU, <u>ED</u> , NE, PU <u>HA</u> <u>HA</u> DU, <u>ED</u> , NE, PU |
| 16 16 16 17 18 | 1 | 1+ 1 1 1+ | | 5 5 4 1 5 | 1355 1628 1629 0649 0631 | 1400 1633 1635 | 1450 1706 1650 0745 0700 | 25 | ED, NE, PA, PU BO, <u>ED</u> , NE <u>RE</u> , SP <u>NE</u> <u>HO</u> , NE |
| 18 18 19 19 | | 1+ □ 1+ 1+ | | 5 1 3 4 | 1347 1539 1041 1057 | 1354 1547 | 1434 1607 1057U 1140 | | DU, <u>ED</u> , NE, PA, PU <u>ED</u> <u>ED</u> , NE <u>ED</u> , NE, PU |
| { 19 19 20 20 21 | 1- | 2 1 1+ 2+ | | 5 1 5 5 4 | 1429 1429 2238 2239 0908 | 1437 1435 2242 2257 0923 | 1530 1440 2317 2334 1020 | 15 25 | A5, DU, <u>ED</u> , NE, PA, PU <u>RE</u> BO, <u>HA</u> A5, <u>BO</u> , <u>HA</u> DU, <u>ED</u> , NE, PU |
| 21 21 21 21 | 1 | 2 2+ 1 1 | | 4 5 1 1 | 1315 1329 1651 1655 | 1321 1334 1704 1702 | 1329U 1415 1712 1723 | 20 | DU, <u>ED</u> , NE, PU DU, <u>ED</u> , NE, PA, PU <u>RE</u> <u>A1</u> |
| { 21 21 21 21 | 1+ | 1 1 1- | | 4 1 1 4 | 1831 1836 2258 2258 | 1841 1848 2308 2313 | 1906 1906 2330 2335 | 25 7 | BO, RE <u>BO</u> <u>BO</u> A7, <u>BO</u> |
| { 22 22 23 23 | 2+ | 2+ 2+ | | 5 5 3 5 | 1342 1342 1332 1332 | 1352 1350 1348 1351 | 1415 1454 1430 1440 | 75 20 | BO, MC, <u>RE</u> A1, A3, A5, BO, <u>DU</u> , ED, NE, PA, PU <u>MC</u> , RE A1, A5, DU, ED, <u>MC</u> , NE, PA, PU |
| { 23 23 23 23 24 | 1- | 1+ 1 1 1 | | 5 1 5 5 1 | 1549 1556 1900 1902 0737 | 1556 1604 1912 1905 | 1620 1616 1952 1945 0811 | 20 20 20 | A3, <u>ED</u> , NE <u>RE</u> A3, A7, BO, <u>MC</u> BO, <u>MC</u> , RE <u>NE</u> |
| 24 24 24 24 24 | 1- | 2 1 1 1 1+ | | 5 1 1 5 5 | 1003 1722 1733 2059 2106 | 1015 1729 1742 2112 2110 | 1112 1733 1815U 2210 2132 | 20 25 | DU, ED, NE, PA, PU <u>RE</u> <u>A7</u> A7, BO, HA, <u>MC</u> BO, HA, <u>MC</u> |
| 25 25 25 26 26 26 | 2 | 1 2 1 2 | | 1 5 5 3 5 5 | 0546 2009 2018 1249 1517 1517 | 0617 2130 2130 1300 1522 1528 | 0617 2130 2130 1327 1550 1615 | 42 40 | <u>HO</u> BO, <u>HA</u> , MC, RE, SP A1, <u>A3</u> , A5, <u>HA</u> <u>ED</u> , NE BO, <u>MC</u> , RE A7, BO, DU, <u>ED</u> , NE, PA, PU |

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIr

(Sudden Cosmic Noise Absorption
Sudden Enhancements Of Atmospherics)
Solar Noise Bursts At 18 Mc.

MARCH 1959

| Mar. 1959 | CLASS | | | WIDESREAD INDEX | TIME (UNIVERSAL TIME) | | | PERCENT ABSORPTION SCNA | OBSERVATION STATIONS |
|--------------|-------|-----|-------|--------------------|--------------------------|------|-------|-------------------------------|------------------------------------|
| | SCNA | SEA | Burst | | BEGIN | MAX. | END | | |
| 26 | | 2 | | 5 | 1630 | 1640 | 1700 | | <u>A7</u> , ED |
| { 26 | 2 | | | 5 | 2101 | 2120 | 2200 | | <u>A3</u> , A5, <u>BO</u> , HA |
| 26 | | | 1 | 3 | 2102 | | 2104 | | <u>BO</u> , SP |
| 26 | | 2 | | 5 | 2104 | 2108 | 2137 | 38 | <u>BO</u> , HA, MC, RE, SP |
| { 26 | | | 1 | 5 | 2119 | | 2122 | | <u>BO</u> , MC, SP |
| { 27 | 1 | | | 1 | 0146 | 0149 | 0230 | 30 | <u>HA</u> |
| { 27 | | 1 | | 1 | 0151 | 0157 | 0230 | | <u>HA</u> |
| { 28 | | | 2 | 5 | 1728 | 1734 | 1738 | | <u>BO</u> , <u>MC</u> , RE |
| 28 | | 1- | | 1 | 1738 | 1740 | 1825U | | <u>A3</u> |
| { 28 | 1+ | | | 5 | 2124 | 2130 | 2200 | 18 | <u>BO</u> , HA, MC |
| 28 | | 1 | | 5 | 2124 | 2135 | 2240 | | A5, A7, <u>BO</u> , HA |
| 29 | | 1+ | | 5 | 0748 | 0754 | 0836 | | <u>ED</u> , HO, NE, PU |
| 29 | | 2+ | | 4 | 1545 | 1600 | 1630 | | <u>A3</u> , <u>A7</u> |
| 29 | | | 1+ | 5 | 1908 | 1910 | 1911 | | <u>BO</u> , <u>MC</u> , RE, SP |
| 30 | | 2+ | | 5 | 1550 | 1557 | 1625 | | A2, A3, A5, A7, DU, <u>ED</u> , KU |
| 30 | | | 1+ | 5 | 1635 | 1641 | 1643 | | <u>BO</u> , MC, <u>RE</u> |
| 31 | | | 1 | 5 | 2057 | | 2101 | | <u>BO</u> , HA |
| { 31 | 1 | | | 1 | 2129 | 2134 | 2145 | | <u>BO</u> |
| 31 | | 1+ | | 1 | 2132 | 2143 | 2154 | | <u>BO</u> |

COMMERCE - STANDARDS - BOULDER

IONOSPHERIC EFFECTS OF SOLAR FLARES

(SHORT-WAVE RADIO FADEOUTS)

AUGUST 1959

| Aug. 1959 | Start UT | End UT | Type | Wide Spread Index | Importance | Observation Stations | Known Flare, UT CRPL-F 181 |
|--------------|-------------|-----------|------------|-------------------------|------------|--|----------------------------------|
| 1 | 0130 | 0158 | G-SWF | 3 | 1+ | AN, <u>OK</u> | 0125 |
| 1 | 1325 | 1352 | Slow S-SWF | 5 | 1 | FM, <u>MC</u> , PR, PU | 1314 |
| 2 | 0540 | 0620 | G-SWF | 1 | 1+ | <u>OK</u> | 0558E |
| 3 | 0730 | 0758 | S-SWF | 1 | 1 | <u>OK</u> | 0721 |
| 3 | 1525 | 1704 | Slow S-SWF | 5 | 3- | FM, MC, <u>PR</u> , WS | 1515 |
| 3 | 2051 | 2110D | S-SWF | 5 | 1+ | AD, BE, FM, LA, <u>MC</u> , PR | 2044 |
| 3 | 2110 | 2140 | S-SWF | 5 | 1+ | AD, FM, LA, <u>MC</u> , PR, WS | |
| 4 | 1031 | 1042 | Slow S-SWF | 3 | 2 | DA, NE | 1033E |
| 4 | 1446 | 1514 | Slow S-SWF | 5 | 1- | FM, LA, MC, <u>PR</u> , WS | 1438 |
| 5 | 1631 | 1655 | S-SWF | 5 | 1- | AN, FM, LA, <u>MC</u> , PR | |
| 6 | 0103 | 0125 | Slow S-SWF | 5 | 1 | AD, <u>OK</u> | 0102 |
| 6 | 0537 | 0610 | S-SWF | 1 | 1+ | <u>OK</u> | 0553E |
| 6 | 0650 | 0710 | S-SWF | 5 | 1 | LI, NE, <u>OK</u> | 0657E |
| 6 | 1500 | 1528 | S-SWF | 5 | 2 | BE, FM, HU, JU, KU, LI, MC, NE, PR | 1440E |
| 6 | 1647 | 1712 | S-SWF | 5 | 1 | AN, FM, HU, MC, <u>PR</u> , WS | 1636 |
| 6 | 2004 | 2015 | S-SWF | 4 | 1 | FM, <u>MC</u> , PR | |
| 7 | 1600 | 1625 | S-SWF | 5 | 2 | BE, FM, MC, NE, PR, WS, CW* | 1551 |
| 7 | 1737 | 1800 | S-SWF | 4 | 1- | MC, PR, WS | 1734E |
| 8 | 0445 | 0535 | S-SWF | 5 | 2 | AD, NE, <u>OK</u> | 0534E |
| 14 | 0105 | 0310 | Slow S-SWF | 5 | 3 | AD, CA, <u>OK</u> | 0044 |
| 16 | 0752 | 0848 | Slow S-SWF | 5 | 2 | NE, <u>OK</u> | |
| 17 | 0330 | 0400 | S-SWF | 5 | 2 | AD, CA, <u>OK</u> , CW+ | 0328 |
| 17 | 0715 | 0740 | S-SWF | 5 | 2 | LI, NE, <u>OK</u> , CW***, CW+ | 0708 |
| 17 | 1220 | 1242 | S-SWF | 5 | 2+ | BE, LI, NE, <u>PR</u> , SW, CW*** | 1220E |
| 17 | 1438 | 1502 | S-SWF | 5 | 1 | FM, <u>HU</u> , PR, CW* | 1436 |
| 17 | 1638 | 1705 | S-SWF | 5 | 1 | FM, <u>HU</u> , PR, WS | |
| 17 | 2048 | 2112 | S-SWF | 5 | 2 | BE, FM, HU, LA, NE, <u>PR</u> , WS | 2046 |
| 18 | 0320 | 0455 | S-SWF | 5 | 2+ | AD, <u>OK</u> | * |
| 18 | 0543 | 0620 | S-SWF | 5 | 2 | NE, <u>OK</u> | * |
| 18 | 1025 | 1225 | S-SWF | 5 | 3 | LI, NE, PR, SW, CW*** | 1019E |
| 18 | 1620 | 1655 | Slow S-SWF | 5 | 2 | FM, HU, MC, <u>PR</u> | 1618 |
| 18 | 1700 | 1749 | Slow S-SWF | 5 | 1+ | FM, HU, NE, <u>PR</u> , WS | 1654 |
| 19 | 1747 | 1810 | S-SWF | 5 | 1+ | FM, <u>HU</u> , MC, PR, WS | |
| 20 | 0924 | 0945 | S-SWF | 3 | 2 | DA, <u>NE</u> | 0920 |
| 20 | 1255 | 1317 | S-SWF | 4 | 1+ | MC, <u>PU</u> | 1252E |
| 21 | 1630 | 1650 | Slow S-SWF | 3 | 1 | FM, MC, PR | 1608 |
| 22 | 0055 | 0143 | S-SWF | 5 | 2 | AD, CA, <u>OK</u> , TO | |
| 22 | 1313 | 1346 | Slow S-SWF | 5 | 2- | MC, NE, <u>PR</u> , PU | 1311E |
| 22 | 1520 | 1540 | S-SWF | 5 | 2 | BE, FM, HU, JU, LA, <u>MC</u> , PR, SW, WS | 1511 |
| 23 | 1622 | 1655 | Slow S-SWF | 5 | 1 | FM, <u>MC</u> , PR, WS | 1610 |
| 24 | 2240 | 2340 | S-SWF | 5 | 2+ | AD, MC, <u>OK</u> , WS | 2233 |
| 25 | 0630 | 0703 | S-SWF | 5 | 1+ | NE, <u>OK</u> | 0624 |
| 25 | 0907 | 0948 | Slow S-SWF | 1 | 2 | DA | 0929E |
| 25 | 1650 | 1740 | Slow S-SWF | 4 | 2- | FM, HU, PR | 1642 |
| 26 | 0909 | 0947 | S-SWF | 3 | 2 | DA, NE, <u>PU</u> | 0907 |
| 28 | 0028 | 0248 | Slow S-SWF | 5 | 2+ | AD, AN, CA, <u>OK</u> | 0027 |
| 29 | 0206 | 0221 | S-SWF | 5 | 1+ | AD, <u>TO</u> | 0206 |
| 29 | 1442 | 1505 | Slow S-SWF | 5 | 1 | BE, <u>FM</u> , MC, PR | |
| 29 | 1726 | 1752 | S-SWF | 5 | 1+ | BE, <u>FM</u> , LA, MC, NE, PR, WS | 1722 |
| 29 | 2235 | 0012 | Slow S-SWF | 5 | 1+ | <u>OK</u> , WS | 2245 |

IONOSPHERIC EFFECTS OF SOLAR FLARES

IIIc

(SHORT-WAVE RADIO FADEOUTS)

AUGUST 1959

| Aug. 1959 | Start UT | End UT | Type | Wide Spread Index | Importance | Observation Stations | Known Flare, UT CRPL-F 181 |
|--------------|-------------|-----------|------------|-------------------------|------------|--|----------------------------------|
| 30 | 0622 | 0710 | Slow S-SWF | 5 | 2 | <u>OK</u> , PU | 0634 |
| 30 | 1442 | 1520 | S-SWF | 5 | 1 | FM, HU, MC, <u>PR</u> | 1415E |
| 30 | 1541 | 1615 | Slow S-SWF | 5 | 1+ | BE, FM, <u>HU</u> , LA, MC, PR, TO, WS | 1536 |
| 30 | 2342 | 0057 | S-SWF | 5 | 2 | AD, CA, LA, <u>OK</u> , TO | 2348 |
| 31 | 0726 | 0757 | S-SWF | 1 | 1+ | <u>OK</u> | 0729E |
| 31 | 1552 | 1608 | Slow S-SWF | 5 | 1 | FM, HU, MC, <u>PR</u> , WS | 1543E |
| 31 | 1856 | 2000 | Slow S-SWF | 5 | 2+ | BE, FM, HU, MC, <u>PR</u> , WS | 1850 |
| 31 | 2242 | 2314 | S-SWF | 5 | 2+ | AD, AN, CA, LA, MC, OK, <u>WS</u> | 2222 |

* No known flare patrol

COMMERCE - STANDARDS - BOULDER

BR = Breisach, G.F.R.

CA = Canberra, Australia

DA = Darmstadt, G.F.R.

JU = Juhlesruh, G.D.R.

KO = Kodaikanal, India

KU = Kuhlungsborn, G.D.R.

LA = Los Angeles, Calif.

LI = Lindau, G.F.R.

NE = Nederhorst den Berg, Netherlands

PA = Paramaribo, Dutch Guiana

PU = Prague, Czechoslovakia

SW = Enkoping, Sweden

TO = Hiraio Radio Wave Observatory, Japan

CW* = Cable and Wireless, Barbadoes

CW** = Cable and Wireless, Somerton, England

CW*** = Cable and Wireless, Brentwood, England

CW+ = Cable and Wireless, Hong Kong

CW++ = Cable and Wireless, Singapore

CW+++ = RCA Communications, Inc., Pt. Reyes, Calif.

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

Ottawa

SEPTEMBER 1959

2800 Mc.

| Sept 1959 | Type | Start UT | Duration Pr: (min) | Times | | Remarks |
|--------------|--------------------------------|----------|-----------------------|---------|-------------|----------|
| | | | | Time UT | Peak FLN | |
| 1 | 3 Simple 3 A | 1418 | 45 | 1440 | 9 | |
| | 2 Simple 2 | 1419.3 | 2 | 1420 | 30 | |
| 1 | 3 Simple 3 A | 1645 | 2 26.5 | indet. | 20 | |
| | 6 Complex | 1657.5 | 16 | 1706 | 70 | |
| 1 | 3 Simple 3 A | 1928 | > 32 | 2023 | 50 | |
| | 7 Period Irregular Activity | 1931.5 | 41.5 | 2009.3 | 45 | |
| | 2 Simple 2 | 2226.3 | 5 | 2228.5 | 25 | |
| 2 | 2 Simple 2 | 1450 | 1.5 | 1450.8 | 12 | |
| | 4 Post Increase | | 7 | | 4 | |
| 2 | 6 Complex | 1603 | 8 | 1607.3 | 120 | |
| | 5 Absorption | | 30 | | -8 | |
| 3 | 3 Simple 3 | 1755 | 1 20 | indet. | 11 | |
| 9 | 3 Simple 3 A | 1540 | 1 20 | indet. | 8 | |
| | 1 Simple 1 | 1557.5 | 5 | 1558.8 | 5 | |
| | 1 Simple 1 | 1612.5 | 2 | 1613.3 | 4 | |
| 11 | 2 Simple 2 | 2157.5 | 3 | 2159 | 15 | |
| 13 | 1 Simple 1 | 1940.3 | 0.7 | 1940.6 | 7 | |
| 14 | 2 Simple 2 | 2155.5 | 3 | 2156 | 25 | |
| 16 | 6 Complex | 1433.5 | 3.5 | 1435.8 | 33 | |
| | 4 Post Increase | | 1 13 | | 6 | |
| 16 | 3 Simple 3 | 1550 | 30 | 1557 | 5 | |
| 16 | 8 Group (2) | 1829.8 | 42.4 | | | |
| | 2 Simple 2 f | 1829.8 | 2 | 1830 | 27 | |
| | 2 Simple 2 f | 1844.2 | 3 | 1845.4 | 78 | |
| | 4 Post Increase | | 25 | | 10 | |
| 16 | 2 Simple 2 | 2112.7 | 2 | 2113 | 57 | |
| 19 | 1 Simple 1 | 2027 | 2 | 2027.5 | 4 | |
| 20 | 8 Group (2) | b1527.5 | > 15.5 | | | |
| | 6 Complex | b1527.5 | > 7.5 | 1528 | 14 | |
| | 2 Simple 2 | 1535 | 8 | 1538 | 14 | |
| 21 | 2 Simple 2 | 1242 | 3 | 1242.9 | 17 | |
| 21 | 2 Simple 2 | 1340.5 | 1.5 | 1341 | 9 | |
| | 4 Post Increase | | 10 | | 4 | |
| 21 | 3 Simple 3 f | 2029 | 1 45 | 2036.5 | 9 | |
| 22 | 1 Simple 1 | 1930 | 3 | 1931 | 6 | Doubtful |
| 26 | 3 Simple 3 A | 1255.5 | 42 | 1309 | 8 | |
| | 6 Complex | 1256 | 4.5 | 1256.6 | 15 | |
| 26 | 6 Complex f | 1352 | 5 | 1354.8 | 18 | |
| | 4 Post Increase | | 15 | | 4 | |

COMMERCE - STANDARDS - BOULDER

HOURS OF OBSERVATION: JULY, AUGUST, SEPTEMBER 1959

OBSERVING PERIOD:

July 1130 UT - 2400 UT (approx.)
 August 1155 UT - 2320 UT (approx.)
 September 1205 UT - 2240 UT (approx.)

with the following exceptions:

- (1) Observations commenced:
 - July 6 at 1415
 - July 31 at 1505
 - August 16 at 1405
 - September 4 at 1415
 - September 7 at 1440
 - September 11 at 1520
 - September 13 at 1440
- (2) Observations ended
 - July 29 at 2230
 - September 10 at 1930
 - September 12 at 1900
- (3) Daily interruption of observations for calibration purposes of approximately 20 minutes, usually in the period 1430 UT to 1600 UT.
- (4) Periods of interference obscuring the records on:
 - July 2, 7, 9-10, 13-15, 20-22, 28-29, 31
 - August 4, 6-9, 12, 14, 18-22, 25-28
 - September 3-4, 9, 11, 13-14, 16-18, 23-24

SOLAR RADIO EMISSION
TIMES OF OBSERVATIONS
JANUARY - AUGUST 1959

IVb

BOULDER

167 MC

| Jan | U. T. | Feb | U. T. | Mar | U. T. | Apr | U. T. | May | U. T. | Jun | U. T. | Jul | U. T. | Aug | U. T. |
|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|
| 1 | 1423-2332 | 1 | 1409-2322 | 1 | 1334-0037 | 1 | 1245-0015 | 1 | 1159-0141 | 1 | 1114-0130 | 1 | 1132-0220 | 1 | 1230-0155 |
| 2 | 1423-2333 | | 2333-0007 | 2 | 1334-0037 | 2 | 1411-0111 | 2 | 1200-0141 | 2 | 1324-1623 | 2 | 1133-0219 | 2 | 1156-1323 |
| 3 | 1423-2335 | 2 | 1900-2022 | 3 | 1358-0039 | 3 | 1243-0112 | 3 | 1158-0141 | | 1801-0130 | 3 | 1134-0218 | | 1545-0158 |
| 4 | 1424-2335 | | 2034-2050 | 4 | 1330-0039 | 4 | 1300-2301 | 4 | 1157-0141 | 3 | 1130-0210 | 4 | 1135-0218 | 3 | 1157-1307 |
| 5 | 1424-1611 | | 2105-0009 | 5 | 1329-0041 | 5 | 1245-2207 | 5 | 1157-0141 | 4 | 1129-0209 | 5 | 1135-0217 | | 1323-0157 |
| | 1815-1905 | 3 | 1407-1700 | 6 | 1327-0042 | | 2218-2257 | 6 | 1157-0143 | 5 | 1130-0212 | 6 | 1142-0213 | 4 | 1200-0157 |
| | 1914-2004 | | 1708-0010 | 7 | 1326-0044 | | 2302-0114 | 7 | 1153-0144 | 6 | 1129-0212 | 7 | 1135-0215 | 5 | 1201-1345 |
| | 2009-2020 | 4 | 1406-0011 | 8 | 1324-1409 | 6 | 1238-1306 | 8 | 1153-1425 | 7 | 1128-0212 | 8 | 1329-0215 | | 1403-1614 |
| | 2039-2335 | 5 | 1415-0012 | | 1410-0024 | | 1852-0114 | | 1455-0146 | 8 | 1128-0213 | 9 | 1139-0215 | | 1822-0156 |
| 6 | 1423-2337 | 6 | 1404-0015 | 9 | 1321-0046 | 7 | 1410-0116 | 9 | 1146-1244 | 9 | 1129-2001 | 10 | 1138-1835 | 6 | 1201-1900 |
| 7 | 1420-2338 | 7 | 1402-0016 | 10 | 1355-0047 | 8 | 1234-1259 | | 1300-0146 | | 2002-0214 | | 1900-0216 | | 1955-0154 |
| 8 | 1421-2340 | 8 | 1401-0016 | 11 | 1508-0047 | | 1315-0117 | 10 | 1150-0147 | 10 | 1129-0214 | 11 | 1139-0210 | 7 | 1202-0152 |
| 9 | 1422-2340 | 9 | 1401-0018 | 12 | 1326-0049 | 9 | 1232-0117 | 11 | 1148-0147 | 11 | 1129-0215 | 12 | 1139-0210 | 8 | 1202-0150 |
| 10 | 1420-2130 | 10 | 1400-0022 | 13 | 1345-1417 | 10 | 1232-0118 | 12 | 1147-0147 | 12 | 1129-0216 | 13 | 1145-0210 | 9 | 1203-0149 |
| | 2138-2342 | 11 | 1359-0021 | | 1426-0050 | 11 | 1229-0119 | 13 | 1147-0148 | 13 | 1127-0217 | 14 | 1135-0212 | 10 | 1204-1248 |
| 11 | 1421-1445 | 12 | 1358-0021 | 14 | 1331-0051 | 12 | 1227-0120 | 14 | 1146-0149 | 14 | 1128-0217 | 15 | 1140-0210 | | 1700-0150 |
| | 1708-1902 | 13 | 1357-0026 | 15 | 1311-0052 | 13 | 1226-0121 | 15 | 1145-0150 | 15 | 1127-0217 | 16 | 1200-0210 | 11 | 1205-1313 |
| | 1920-2341 | 14 | 1355-0025 | 16 | 1310-0054 | 14 | 1223-1602 | 16 | 1500-0150 | 16 | 1127-0219 | 17 | 1200-0210 | | 1400-0149 |
| 12 | 1421-1701 | 15 | 1353-0024 | 17 | 1309-0055 | | 1756-0122 | 17 | 1144-1230 | 17 | 1127-0219 | 18 | 1200-0210 | 12 | 1207-1325 |
| | 1814-2000 | 16 | 1352-0026 | 18 | 1308-0056 | 15 | 1223-0122 | | 1800-2131 | 18 | 1712-2202 | 19 | 1145-1338 | | 1345-0149 |
| | 2149-2342 | 17 | 1351-0026 | 19 | 1305-0058 | 16 | 1222-0123 | | 2139-0151 | | 2220-0219 | | 1345-0210 | 13 | 1204-0146 |
| 13 | 1457-1846 | 18 | 1350-0027 | 20 | 1304-0058 | 17 | 1221-0124 | 18 | 1445-0151 | 19 | 1129-1323 | 20 | 1145-0205 | 14 | 1210-0144 |
| 14 | C* | 19 | 1348-0027 | 21 | 1324-0059 | 18 | 1219-0126 | 19 | 1411-0153 | | 1342-0219 | 21 | 1152-0200 | 15 | 1209-2125 |
| 15 | C* | 20 | 1347-0029 | 22 | 1301-1342 | 19 | 1220-0127 | 20 | 1141-0153 | 20 | 1129-1325 | 22 | 1200-0200 | 16 | 1211-1423 |
| 16 | C* | 21 | 1346-0030 | | 1348-0101 | 20 | 1216-0128 | 21 | 1140-0154 | | 1342-0219 | 23 | 1200-0200 | | 1601-1919 |
| 17 | C* | 22 | 1345-0032 | 23 | 1259-2230 | 21 | 1215-0128 | 22 | 1140-0157 | 21 | 1129-0219 | 24 | 1200-0200 | | 1924-2315 |
| 18 | 1649-2348 | 23 | 1343-0032 | 24 | 1256-1334 | 22 | 1212-1944 | 23 | 1139-0157 | 22 | 1129-0219 | 25 | 1200-0200 | | 0004-0140 |
| 19 | C* | 24 | 1342-0034 | | 1358-2007 | | 2000-2043 | 24 | 1138-0158 | 23 | 1123-0220 | 26 | 1200-0200 | 17 | 1219-1315 |
| 20 | C* | 25 | 1341-0034 | | 2046-2104 | | 2049-0129 | 25 | 1137-0200 | 24 | 1128-0220 | 27 | 1200-0200 | | 1600-1751 |
| 21 | C* | 26 | 1344-0035 | | 2107-2159 | 23 | 1212-2154 | 26 | 1135-1323 | 25 | 1127-0220 | 28 | 1200-0200 | | 1806-2305 |
| 22 | 1740-2355 | 27 | 1343-0036 | | 2207-2313 | 24 | 1211-1333 | | 1325-0202 | 26 | 1130-1703 | 29 | 1200-0200 | | 2350-0139 |
| 23 | 1415-1557 | 28 | 1336-0037 | | 2319-0101 | | 1549-0131 | 27 | 1135-0203 | | 1845-0220 | 30 | 1154-0159 | 18 | 1338-1611 |
| | 1619-2357 | | | 25 | 1256-1327 | 25 | 1208-0132 | 28 | 1135-0204 | 27 | 1130-1246 | 31 | 1155-0155 | | 1634-2001 |
| 24 | 1414-2357 | | | | 1416-1926 | 26 | 1208-1300 | 29 | 1135-0204 | | 1306-0221 | | | | 2007-2257 |
| 25 | 1414-0000 | | | | 1941-2326 | | 1415-0134 | 30 | 1134-0205 | 28 | 1130-1240 | | | | 2310-0137 |
| 26 | 1413-0000 | | | 26 | 1356-1818 | 27 | 1206-0133 | 31 | 1133-0205 | | 1254-0220 | | | 19 | 1215-1330 |
| 27 | 1412-2330 | | | | 1852-0102 | 28 | 1205-0137 | | | 29 | 1132-0220 | | | | 1509-0137 |
| 28 | 1418-1702 | | | 27 | 1332-0103 | 29 | 1205-0138 | | | 30 | 1132-0219 | | | 20 | 1215-1326 |
| | 1819-0002 | | | 28 | 1252-0103 | 30 | 1202-0139 | | | | | | | | 1350-0141 |
| 29 | 1412-1802 | | | 29 | 1250-0106 | | | | | | | | | 21 | 1215-0133 |
| | 1849-0004 | | | 30 | 1247-0109 | | | | | | | | | 22 | 1217-0133 |
| 30 | 1410-1635 | | | 31 | 1247-0109 | | | | | | | | | 23 | 1218-0132 |
| | 1916-0005 | | | | | | | | | | | | | 24 | 1217-0130 |
| 31 | 1410-0005 | | | | | | | | | | | | | 25 | 1217-0129 |
| | | | | | | | | | | | | | | 26 | 1219-1351 |
| | | | | | | | | | | | | | | | 1358-1502 |
| | | | | | | | | | | | | | | | 1505-0127 |
| | | | | | | | | | | | | | | 27 | 1219-2007 |
| | | | | | | | | | | | | | | | 2021-0127 |
| | | | | | | | | | | | | | | 28 | 1320-0122 |
| | | | | | | | | | | | | | | 29 | 1226-1447 |
| | | | | | | | | | | | | | | | 1530-2254 |
| | | | | | | | | | | | | | | | 2302-0121 |
| | | | | | | | | | | | | | | 30 | 1224-0119 |
| | | | | | | | | | | | | | | 31 | 1227-1405 |
| | | | | | | | | | | | | | | | 1417-0118 |

* Equipment Failure

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES SEPTEMBER 1959

BOULDER

167 MC

| Sept 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|-----------|------|----------|--------------------|------------------|-----------|
| 1 | 6 | 1231 E | | 763 D | 2 I |
| 2 | 6 | 1229 E | | 761 D | S |
| 2 | 3 | 1317 | 1319.8 | 2.8 | 2 |
| 2 | 8 | 1341 | 1343.5 | 5 | 2 |
| 2 | 8 | 1609.0 | 1610.0 | 2.1 | 3 |
| 3 | 6 | 1229 E | | 761 D | 2 S |
| 3 | 4 | 1603.0 | 1603.6 | 0.9 | 3 |
| 4 | 6 | 1500 E | | 300 D | 2 |
| 4 | 4 | 1534.8 | 1536.6 | 1.8 | 2 |
| 4 | 2 | 1607.1 | 1609.7 | 3.3 | 2 |
| 4 | 2 | 2321 | 2323.5 | 3 | 2 |
| 5 | 4 | 1553.4 | 1553.6 | 0.9 | 1 |
| 5 | 8 | 1555.6 | 1557.0 | 4 | 2 |
| 5 | 2 | 1600.8 | 1605.8 | 7 | 2 |
| 5 | 2 | 1805.3 | 1805.4 | 2.4 | 2 |
| 5 | 4 | 1956.6 | 1956.8 | 3.4 | 3 |
| 5 | 2 | 2112.8 | 2119.5 | 7 | 1 |
| 5 | 4 | 2153 | 2157.2 | 6 | 3 |
| 6 | 2 | 1524 | 1524.5 | 1.5 | 1 I |
| 8 | 3 | 0025.6 | 0025.7 | 0.6 | 1 |
| 8 | 3 | 1559.1 | 1559.2 | 0.3 | 2 I |
| 10 | 2 | 0013.6 | 0013.8 | 1.1 | 1 |
| 10 | 6 | 1238 E | | 743 D | 2 S |
| 10 | 2 | 2054 | 2055.9 | 4.3 | 2 |
| 11 | 6 | 1239 E | | 739 D | 2 I, S |
| 11 | 2 | 1318 | 1319.9 | 3.5 | 2 |
| 11 | 3 | 2203.6 | 2204.0 | 0.9 | 2 |
| 11 | 2 | 2217.5 | 2217.9 | 1.4 | 2 |
| 12 | 6 | 1240 E | | 735 D | 2 I |
| 12 | 8 | 2038.7 | 2039.8 | 2.9 | 3 |
| 13 | 6 | 1240 E | | 733 D | 2 |
| 13 | 4 | 1320 | 1321.5 | 2.3 | 3 |
| 13 | 2 | 1453.2 | 1453.3 | 1.3 | 2 |
| 13 | 8 | 1940.1 | 1940.7 | 1.4 | 3 |
| 14 | 2 | 1326.5 | 1326.6 | 0.9 | 2 |

| Sept 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Intensity |
|-----------|------|----------|--------------------|------------------|-----------|
| 14 | 3 | 1437.3 | 1437.4 | 0.7 | 1 |
| 14 | 3 | 1523.3 | 1523.6 | 0.7 | 2 |
| 14 | 3 | 1707.8 | 1708.0 | 0.6 | 2 |
| 16 | 3 | 1844.1 | 1844.2 | 1.1 | 1 |
| 17 | 6 | 1245 E | | 723 D | 3 |
| 17 | 2 | 1246 | 1247.0 | 3 | 3 * |
| 18 | 6 | 1245 E | | 405 D | 2 |
| 18 | 3 | 1421.1 | 1421.3 | 0.4 | 2 |
| 19 | 3 | 0031.8 | 0032.1 | 0.4 | 2 |
| 19 | 4 | 1931.3 | 1931.9 | 1.4 | 2 |
| 19 | 3 | 1933.3 | 1933.4 | 0.7 | 2 |
| 20 | 9 | 1249 E | 1256.2 | 23 D | 2 |
| 20 | 2 | 1413 | 1416.0 | 4.8 | 1 |
| 20 | 3 | 1440.8 | 1440.9 | 0.6 | 1 |
| 20 | 8 | 1530 E | 1539.9 | 42 D | 2 |
| 21 | 2 | 0008 | 0008.2 | 5 | 2 |
| 22 | 7 | 1841 | 2059.3 | 181 D | 2 |
| 22 | 3 | 2334.4 | 2334.6 | 0.8 | 3 S |
| 23 | 3 | 1253.1 | 1253.2 | 0.6 | 1 * |
| 23 | 3 | 2042.1 | 2042.9 | 0.6 | 2 |
| 24 | 4 | 1248.9 | 1302.2 | 12 | 2 S* |
| 25 | 4 | 1304.8 | 1305.3 | 1.4 | 1 * |
| 25 | 8 | 1610 | 1616.2 | 8 | 2 |
| 26 | 4 | 1739.4 | 1741.9 | 2.4 | 1 |
| 26 | 3 | 1744.0 | 1744.9 | 1.7 | 2 |
| 26 | 4 | 2029 E | 2029.2 | 2.0 | 3 |
| 29 | 8 | 2031 | 2032.9 | 4 | 2 I, S |

* On sunrise pattern

** On sunset pattern

TIMES OF OBSERVATIONS

| Sept. | U.T. | Sept. | U.T. |
|-------|-----------|-------|-----------|
| 1 | 1231-1926 | 13 | 1240-0053 |
| | 2046-0114 | 14 | 1242-2450 |
| 2 | 1229-0110 | 15 | 1243-0049 |
| 3 | 1229-0110 | 16 | 1244-0049 |
| 4 | 1500-0109 | 17 | 1245-0048 |
| 5 | 1419-0107 | 18 | 1245-0047 |
| 6 | 1513-1900 | 19 | 1248-0045 |
| | 1907-0106 | 20 | 1249-0043 |
| 7 | 1428-0104 | 21 | 1248-0042 |
| 8 | 1237-2001 | 22 | 1251-0040 |
| | 2003-0103 | 23 | 1250-0038 |
| 9 | 1240-2119 | 24 | 1251-0037 |
| | 2204-0102 | 25 | 1254-2230 |
| 10 | 1238-0101 | 26 | 1452-0032 |
| 11 | 1239-1430 | 27 | 1256-0032 |
| | 1550-0058 | 28 | 1258-0029 |
| 12 | 1240-1255 | 29 | 1535-1751 |
| | 1317-1404 | | 1937-0028 |
| | 1416-0055 | 30 | 1257-0027 |

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
JULY 1959

IVd

HAWAII

200 MC

| July 1959 | Type | Start UT | Time of Maximum UT | Duration Minutes | Remarks |
|-----------|------|----------|--------------------|------------------|---------|
| 1 | | | | | * |
| 2 | 3 | 0205.7 | 0206.7 | 1.1 | |
| 3 | 3 | 1922.8 | 1923.0 | 0.6 | |
| | 3 | 2357.0 | 2357.4 | 0.5 | |
| 4 | 3 | 0127.3 | 0127.6 | 0.7 | |
| | 2 | 0204.0 | 0210.7 | 7.0 | |
| 5 | 1 | 0150.0 | 0207.0 | 98.0 | |
| | 1 | 1907.0 | 2010.0 | 76.0 | |
| | 3 | 2234.0 | 2234.0 | 0.1 | |
| | 2 | 2335.0 | 2338.6 | 7.5 | |
| 6 | 2 | 0159.4 | 0200.0 | 1.8 | |
| 7 | 1 | 0344 | 0344.8 | 2.0 | |
| 8 | 1 | 1803.0 | 1805.0 | 2.3 | |
| 9 | 0 | 2022.5 | 2158.0 | 143.5 | |
| | 2 | 2319.0 | 2342.0 | 31.0 | |
| 10 | 3 | 0200 | 0200.1 | 2.0 | |
| | 0 | 0209 | 0212.0 | 24.0 | |
| | 2 | 2323.0 | 2337.5 | 27.0 | |
| 11 | 2 | 0205.1 | 0225.0 | 25.5 | |
| | 1 | 1848.0 | 2208.0 | 201.0 | |
| 12 | 3 | 1954.0 | 1954.2 | 1.0 | |
| | 0 | 2219.0 | 2316.8 | 120.0 | |
| 13 | 1 | 0122.0 | 0214.5 | 97.5 | |
| 14 | 1 | 0054.5 | 0144.6 | 188.5 | |
| | 3 | 1831.0 | 1831.3 | 0.5 | |
| | 2 | 1951.0 | 2010.2 | 30.5 | |
| | 2 | 2222.4 | 2226.8 | 4.6 | |

| | Type | Start UT | Time of Maximum UT | Duration Minutes | Remarks |
|----|------|----------|--------------------|------------------|---------|
| 15 | 3 | 0253.2 | 0253.5 | 0.6 | |
| | 3 | 1926.8 | 1926.9 | 0.5 | |
| | 1 | 2329.0 | 2329.5 | 16.0 | |
| 16 | 0 | 2121.0 | 2144.0 | 341.0 | |
| 17 | | | | | * |
| 18 | | | | | * |
| 19 | 3 | 0023.3 | 0023.4 | 0.4 | |
| | 3 | 0210.0 | 0210.2 | 0.3 | |
| | 3 | 2328.0 | 2328.2 | 0.7 | |
| 20 | 3 | 0232.0 | 0232.8 | 1.0 | |
| | 3 | 0329.0 | 0329.6 | 1.0 | |
| 21 | | | | | * |
| 22 | | | | | * |
| 23 | | | | | * |
| 24 | 3 | 2100.0 | 2100.5 | 1.0 | |
| 25 | 3 | 2026.0 | 2026.2 | 0.5 | |
| 26 | | | | | * |
| 27 | 2 | 2109.0 | 2111.2 | 3.0 | |
| 28 | 3 | 2133.0 | 2133.5 | 1.0 | |
| 29 | 3 | 0054.0 | 0054.3 | 0.7 | |
| | 3 | 0229.0 | 0229.5 | 1.0 | |
| | 2 | 2118.0 | 2118.2 | 6.0 | |
| 30 | 2 | 0002.8 | 0006.6 | 6.2 | |
| | 3 | 0038.4 | 0038.8 | 1.3 | |
| | 3 | 0153 | 0153.7 | 1.0 | |
| 31 | | | | | * |

*No activity

COMMERCE - STANDARDS - BOULDER

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

JANUARY - MARCH 1959

Fort Davis

25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | Type II (Slow Drift Bursts) Unclassified | Type III (Fast Drift Bursts) | Remarks |
|--|--|---|---|--|
| | Bursts* or Continuum Time Int | II or Unclass Time Int | Act Time Int | |
| Jan. 1 1414-2350 | 1415-27 1- 1441-1505 1- 1505-41 1 1541-47 2 1547-1607 1 1607-18 2 1618-1704 3 1704-1810 1 1810-18 2 1818-45 1 1845-53 2 1853-1931 1 1931-41 2 1941-2026 1 2026-41 1- 2041-2330 1 | Uncl. 1656-1700 2 | g 1501-02 2 g 1646-47 1 g 1649 2 g 1736 2 g 1742 3 g 1746-47 1- g 1901-02 1- b 2126 1 g 2129-30 1 g 2131-32 1 G 2132-33 3 G 2133-36 2 g 2235-36 1 | |
| Jan. 2 1415-1445 1618-2350 | 1416-36 1 1618-24 1 1624-50 2 1650-1905 1 1905-30 1- 1930-51 1 1951-2029 2 2029-55 1 2055-2114 2 2114-26 1 2126-35 2 2135-2345 1 | | g 1426-27 1 b 1431 1 G 1641-43 2 g 1644 1 G 1648-50 2 g 2238 2 | |
| Jan. 3 1415-2350 | 1416-46 1 1446-1540 1- 1602-15 1- 1621-31 1- 1649 1- 1712-34 1- 1807-1908 1 1918-19 1- 1927-2101 1 2117-20 1- 2134 1- 2334-46 1- | II 1610-13 2 Uncl. 1651-52 3 | b 1615 3 g 1617 1- b 1820 2 | |
| Jan. 4 1414-2350 | 1414-1504 1 1504-15 2 1515-45 1 1627-29 1 1701-02 1 1716-25 1- 1744-1835 1- 1835-53 2 1853-1908 1 1932-34 1- 2006-07 1- 2115-18 1- 2138-44 1- 2209-24 1- 2252-2306 1 2306-48 2 | | g 1507 2 g 1509 1 g 1627-28 2 b 1719 3 b 1720 3 | 1719 inverted U burst 1720 inverted U burst |
| Jan. 5 1414-1445 1525-2350 | 1414-35 2 1525-40 1- 1554-58 1- 1610 1- 1624-30 1- 1639-48 1- 1712 1- 1805-15 1 1815-46 1- 1855-1903 1- 1903-18 1 1918-29 1- 1939-40 1- 2017-31 1- 2031-41 1 2041-54 2 2054-2100 3 2100-07 2 2107-23 1 2123-48 2 2148-2206 1 2206-2347 1- | | b 1427 1 b 1624 1 b 1657 1- b 1809 1- b 1827 1 | |
| Jan. 6 1414-2355 | Cont. 1556-1641 1 Cont. 1641-1715 2 Cont. 1715-1900 3 Cont. 1900-2019 2 Cont. 2019-2348 1 | | b 1836 2 b 1851 3 b 1942 2 b 1957 1 g 2235 2 b 2302 1- | |

*Burst unless specified otherwise

COMMERCIAL - STANDARDS - QUALITY

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVf

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|--|---------|-----|---------------------------------|---------|-----|---------|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Jan. 7 1551-2355 1600-1829 | Cont. | 1418-1536 | 1 | | | | b | 2306 | 1- | |
| | | 1536-50 | 2 | | | | g | 2309 | 1- | |
| | | 1550-2019 | 3 | | | | g | 2320 | 1 | |
| | | 2019-2149 | 2 | | | | b | 2325 | 2 | |
| | | 2149-2240 | 1 | | | | b | 2336 | 3 | |
| | | 2240-2302 | 2 | | | | | | | |
| | | 2302-24 | 3 | | | | | | | |
| | | 2324-48 | 2 | | | | | | | |
| | | 2211-2352 | 1 | | | | b | 1838 | 2 | |
| | | 1551-1610 | 2 | | | | b | 1914 | 1 | |
| | | 1610-28 | 1 | | | | b | 1942 | 1 | |
| | | 1628-1704 | 2 | | | | b | 1944 | 1- | |
| | | 1704-1829 | 1 | | | | | | | |
| | | 1829-36 | 2 | | | | | | | |
| | | 1836-59 | 3 | | | | | | | |
| | | 1859-1936 | 2 | | | | | | | |
| Jan. 8 1414-2355 | Cont. | 1936-2019 | 3 | | | | | | | |
| | | 2019-2108 | 2 | | | | | | | |
| | | 2108-2208 | 3 | | | | | | | |
| | | 2208-2352 | 3+ | | | | | | | |
| | | 1414-2125 | 1 | | | | g | 1432 | 2 | |
| | | 2235-2348 | 1 | | | | g | 1446 | 2 | |
| | | | | | | | g | 1626 | 2 | |
| | | 1414-58 | 2 | | | | g | 1723 | 3 | |
| | | 1458-1517 | 1 | | | | g | 1804 | 1 | |
| | | 1517-53 | 2 | | | | g | 1901 | 3 | |
| | | 1553-1640 | 3 | | | | g | 1908 | 3 | |
| | | 1640-1956 | 2 | | | | g | 1924 | 2 | |
| | | 1956-2009 | 3 | | | | b | 1936 | 3 | |
| | | 2009-2123 | 2 | | | | g | 2051 | 2 | |
| | | 2123-2255 | 1 | | | | | | | |
| | | 2255-2310 | 2 | | | | | | | |
| Jan. 9 1414-1800 1813-2355 | Cont. | 2310-2349 | 1 | | | | | | | |
| | | 1414-1800 | 1 | | | | b | 1429 | 2 | |
| | | 1813-2352 | 1 | | | | g | 1909 | 1 | |
| | | | | | | | g | 1911-12 | 1 | |
| | | 1417-1510 | 1- | | | | b | 1924 | 1 | |
| | | 1510-21 | 1 | | | | g | 2120 | 3 | |
| | | 1521-1800 | 2 | | | | | | | |
| | | 1815-23 | 1 | | | | | | | |
| | | 1823-1920 | 2 | | | | | | | |
| | | 1920-48 | 3 | | | | | | | |
| | | 1948-2105 | 2 | | | | | | | |
| | | 2105-2156 | 1 | | | | | | | |
| | | 2156-2231 | 2 | | | | | | | |
| | | 2231-44 | 3 | | | | | | | |
| | | 1414-1912 | 3 | | | | b | 1415 | 1 | |
| Jan. 10 1414-2355 | Cont. | 1912-2002 | 2 | | | | b | 1456 | 3 | |
| | | 2002-24 | 3 | | | | b | 1639 | 2 | |
| | | 2024-32 | 2 | | | | | | | |
| | | 2032-51 | 3 | | | | | | | |
| | | 2051-57 | 2 | | | | | | | |
| | | 2057-2300 | 1 | | | | | | | |
| | | 2300-52 | 2 | | | | | | | |
| | | 1415-1640 | 3 | | | | | | | |
| | | 1640-1717 | 2 | | | | | | | |
| | | 1717-55 | 3 | | | | | | | |
| | | 1755-1816 | 2 | | | | | | | |
| | | 1816-27 | 3 | | | | | | | |
| | | 1827-46 | 2 | | | | | | | |
| | | 1846-1925 | 3 | | | | | | | |
| | | 1925-2011 | 2 | | | | | | | |
| Jan. 11 1414-2200 2209-2400 | Cont. | 2011-55 | 3 | Uncl. | 1940-43 | 1 | g | 1642 | 1- | |
| | | 2055-2216 | 2 | | | | g | 1838 | 1- | |
| | | 2216-43 | 1 | | | | b | 2200 | 3 | |
| | | 2243-2300 | 2 | | | | | | | |
| | | 2300-52 | 3 | | | | | | | |
| | | 1417-1703 | 1 | | | | | | | |
| | | 1703-15 | 2 | | | | | | | |
| | | 1715-1727 | 3 | | | | | | | |
| | | 1727-1819 | 3+ | | | | | | | |
| | | 1819-34 | 3 | | | | | | | |
| | | 1834-39 | 2 | | | | | | | |
| | | 1839-1910 | 1 | | | | | | | |
| | | 1910-51 | 1- | | | | | | | |
| | | 1951-2009 | 1 | | | | | | | |
| | | 2009-19 | 1- | | | | | | | |
| | | 2047-2130 | 1- | | | | | | | |
| | | 2155-2200 | 1 | | | | | | | |
| | | 2228-30 | 1- | | | | | | | |
| | | 2251-2305 | 1- | | | | | | | |
| | | 2333-49 | 1- | | | | | | | |

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|---------|-----|---------------------------------|---------|-----|---------|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Jan. 12 1415-2400 | | 1601-12 | 1 | | | | b | 1738 | 1 | |
| | | 1629 | 1 | | | | | | | |
| | | 1759-1803 | 1- | | | | | | | |
| | | 1821 | 1 | | | | | | | |
| | | 1828-38 | 1- | | | | | | | |
| | | 1852 | 1- | | | | | | | |
| | | 1938-45 | 1 | | | | | | | |
| | | 2001-11 | 1- | | | | | | | |
| | | 2339-40 | 1 | | | | | | | |
| Jan. 13 1414-2400 | | | | | | | g | 1545 | 3 | |
| Jan. 14 1415-2330 | | 1644-1703 | 1- | | | | b | 1649 | 1- | |
| | | 1729-30 | 1- | | | | | | | |
| Jan. 15 1414-2400 | | | | | | | b | 1850 | 1- | |
| Jan. 16 1415-2400 | | | | Uncl. | 1912 | 1 | b | 1551 | 1 | |
| | | | | | | | g | 1824-25 | 1 | |
| | | | | | | | b | 1836 | 1- | |
| | | | | | | | G | 1842-46 | 3 | |
| | | | | | | | g | 1907-08 | 3 | |
| | | | | | | | g | 1908-09 | 2 | |
| | | | | | | | g | 1910 | 2 | |
| | | | | | | | G | 1914-17 | 3 | |
| | | | | | | | G | 1917-19 | 1 | |
| | | | | | | | g | 1936-37 | 3 | |
| Jan. 17 1414-2400 | Cont. | 1422 | 3 | | | | g | 1422 | 2 | |
| | | 1523-24 | 1 | | | | b | 1448 | 1 | |
| | | 1649 | 1 | | | | b | 2156 | 1 | |
| | | | | | | | b | 2216 | 1 | |
| | | | | | | | g | 2218 | 3 | |
| | | | | | | | b | 2354 | 3 | |
| Jan. 18 1414-2400 | | 1758-1805 | 1 | | | | b | 1539 | 1- | |
| | | 1822 | 1- | | | | b | 1842 | 1 | |
| | | 2004 | 1 | | | | g | 2003-04 | 1- | |
| | | 2145 | 1 | | | | b | 2006 | 1- | |
| | | 2150 | 1 | | | | g | 2123-24 | 2 | |
| | | | | | | | G | 2127-29 | 2 | |
| | | | | | | | g | 2132-33 | 1- | |
| Jan. 19 1415-2400 | | 2016-17 | 1 | | | | g | 1744 | 1 | |
| | | 2253 | 1- | | | | b | 2017 | 1- | |
| | | 2352 | 1- | | | | g | 2101 | 1 | |
| | | | | | | | g | 2239 | 1- | |
| Jan. 20 0000-0003 1414-2400 | | 1415-22 | 1 | | | | g | 1633 | 3 | |
| | | 1452-1522 | 1 | | | | b | 1651 | 3 | |
| | | 1618 | 1- | | | | g | 1724 | 3 | |
| | | 1651 | 1- | | | | g | 1725 | 1 | |
| | | 1840 | 2 | | | | g | 1726 | 2 | |
| | | 2120-22 | 1 | | | | g | 1735-36 | 2 | |
| | | 2252 | 1- | | | | b | 1817 | 3 | |
| | | 2317-18 | 1- | | | | g | 1819-20 | 3 | |
| | | 2334-52 | 1- | | | | g | 1820-21 | 1- | |
| | | | | | | | b | 1905 | 2 | |
| | | | | | | | b | 1912 | 3 | |
| | | | | | | | g | 1927-28 | 1 | |
| | | | | | | | b | 2014 | 3 | |
| | | | | | | | b | 2045 | 1 | |
| | | | | | | | b | 2104 | 1 | |
| | | | | | | | b | 2142 | 3 | |
| | | | | | | | b | 2153 | 3 | |
| | | | | | | | b | 2333 | 3 | |
| Jan. 21 0000-0005 1415-2400 | | 1526-54 | 1 | Uncl. | 1716-17 | 1 | G | 1519-20 | 2 | |
| | | 1604 | 1- | | | | g | 1535 | 3 | |
| | | 1707-17 | 1- | | | | b | 1537 | 1 | |
| | | 1733-1823 | 1 | II. | 1718-43 | 3 | b | 1553 | 2 | |
| | | 1843-1904 | 1 | | | | G | 1600-01 | 3 | |
| | | 1922 | 1- | | | | b | 1604 | 1 | |
| | | 1934 | 1 | | | | g | 1608 | 2 | |
| | | 1940 | 1 | | | | b | 1708 | 1 | |
| | | 1947 | 1 | | | | g | 1720-21 | 3 | |
| | | 2017 | 1 | | | | b | 1737 | 1- | |
| | | 2038-40 | 1- | | | | b | 1747 | 2 | |
| | | 2052-58 | 1 | | | | b | 1805 | 1- | |
| | | 2125 | 1 | | | | b | 1812 | 1- | |
| | | 2258 | 1 | | | | b | 1824 | 1- | |
| | | 2322-38 | 1- | | | | b | 1833 | 1 | |
| | | 2352-56 | 1 | | | | b | 1834 | 3 | |
| | | | | | | | g | 1836 | 3 | |
| | | | | | | | G | 1838-41 | 3 | |
| | | | | | | | b | 1842 | 1- | |
| | | | | | | | g | 1920-21 | 2 | |
| | | | | | | | g | 2001 | 2 | |
| | | | | | | | g | 2002 | 3 | |

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVh

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|---------|-----|---------------------------------|---------|-----|--|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Jan. 22 1415-2325 | Cont. | 1547-48 | 3 | Uncl. II. | 1554-58 | 2 | b | 2003-04 | 3 | 1554-58 this Uncl. burst has some features of a Type II burst. |
| | | 1611-16 | 1 | | 2102-12 | 2 | b | 2136 | 1 | |
| 1415-2325 | Cont. | 1616-20 | 2 | | | | g | 2139 | 2 | |
| | | 1816-17 | 3 | | | | g | 2223 | 2 | |
| | Cont. | 2057-59 | 3 | | | | G | 2224-25 | 2 | |
| | | | | | | | g | 2306 | 3 | |
| | | | | | | | G | 2350-52 | 2 | |
| | | | | | | | b | 2353 | 1 | |
| | | | | | | | b | 2354 | 1 | |
| | | | | | | | | | | |
| | | 1446-48 | 1- | | | | | | | |
| | | 1501-1606 | 1 | | | | g | 1759 | 2 | |
| | | 1638-1910 | 1 | | | | g | 1815 | 1- | |
| | | 1933-45 | 1 | | | | G | 1816-17 | 3 | |
| | | 1958-2020 | 1 | | | | g | 1819 | 2 | |
| | | 2033-51 | 1 | | | | g | 1821 | 3 | |
| | | 2100-10 | 1 | | | | g | 1822-23 | 1 | |
| | | 2128 | 1- | | | | b | 1829 | 1 | |
| | | 2319 | 1- | | | | g | 1926 | 3 | |
| | | | | | | | g | 1932-33 | 2 | |
| | | | | | | | g | 1940 | 1- | |
| | | | | | | | b | 1941 | 2 | |
| | | | | | | | b | 1942 | 1 | |
| | | | | | | | g | 2048-49 | 1 | |
| | | | | | | | g | 2057-58 | 3 | |
| | | | | | | | b | 2113 | 1 | |
| | | | | | | | b | 2118 | 1- | |
| | | | | | | | b | 2124 | 1 | |
| | | | | | | | g | 2238 | 2 | |
| | | | | | | | g | 2241 | 3 | |
| | | | | | | | g | 2259 | 1 | |
| | | | | | | | | | | |
| Jan. 23 1415-2400 | | 1415-1601 | 1 | | | | b | 1555 | 1- | |
| | | 1617-32 | 1 | | | | G | 1608-11 | 2 | |
| | | 1632-41 | 2 | | | | g | 2124 | 3 | |
| | | 1641-55 | 1 | | | | g | 2330-31 | 1- | |
| | | 1708-10 | 1- | | | | G | 2332-35 | 2 | |
| | | 1727-38 | 1- | | | | | | | |
| | | 1746-1826 | 1 | | | | | | | |
| | | 1838-1904 | 1 | | | | | | | |
| | | 1904-40 | 2 | | | | | | | |
| | | 1940-2201 | 1 | | | | | | | |
| | | 2215-51 | 1 | | | | | | | |
| | | 2319-54 | 1 | | | | | | | |
| Jan. 24 0000-0005 1415-2400 | | 1415-1511 | 2 | | | | b | 1726 | 3 | |
| | | 1511-45 | 1 | | | | b | 1740 | 1 | |
| | | 1545-59 | 2 | | | | b | 1745 | 1 | |
| | | 1559-1702 | 1 | | | | g | 1801-02 | 1 | |
| | | 1740-1803 | 1 | | | | g | 1802-03 | 1 | |
| | | 1803-42 | 3 | | | | b | 1836 | 2 | |
| | | 1842-1922 | 1 | | | | g | 2030 | 2 | |
| | | 1922-37 | 2 | | | | g | 2034 | 3 | |
| | | 1937-59 | 3 | | | | b | 2049 | 1 | |
| | | 1959-2018 | 2 | | | | g | 2051 | 2 | |
| | | 2018-2141 | 1 | | | | b | 2052 | 2 | |
| | | 2141-51 | 2 | | | | b | 2100 | 1- | |
| | | 2151-2222 | 1 | | | | g | 2104-05 | 1 | |
| | | 2237-2357 | 1 | | | | b | 2150 | 1 | |
| | | | | | | | g | 2342 | 3 | |
| | | | | | | | | | | |
| Jan. 25 0000-0005 1414-2400 | | 1416-38 | 1 | | | | g | 1430 | 1- | |
| | | 1438-1556 | 2 | | | | g | 1431-32 | 2 | |
| | | 1556-2158 | 1 | | | | g | 1436 | 1- | |
| | | 2223-29 | 2 | | | | g | 1440 | 3 | |
| | | 2229-2353 | 1 | | | | g | 1442 | 3 | |
| | | | | | | | g | 1446 | 1- | |
| | | | | | | | b | 1532 | 3 | |
| | | | | | | | g | 1647 | 3 | |
| | | | | | | | b | 1649 | 1 | |
| | | | | | | | g | 1702-03 | 3 | |
| | | | | | | | G | 1705-06 | 2 | |
| | | | | | | | g | 1733 | 1 | |
| | | | | | | | g | 1911-12 | 1 | |
| | | | | | | | g | 2002 | 1 | |
| Jan. 26 0000-0005 1414-2400 | Cont. | 1546-47 | 1- | | | | g | 2009-10 | 2 | |
| | | 1559-1608 | 1- | | | | b | 2007 | 1- | |
| | Cont. | 1622 | 1- | | | | | | | |
| | | 1632-38 | 1- | | | | | | | |
| | | 1757-1802 | 1- | | | | | | | |
| | | | | | | | | | | |
| Jan. 27 0000-0005 1415-2400 | Cont. | 1857-58 | 2 | | | | b | 1611 | 1 | |
| | | 2044-45 | 2 | | | | g | 1857 | 3 | |
| | | | | | | | b | 1929 | 3 | |

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | Type II (Slow Drift Bursts) Unclassified | Type III (Fast Drift Bursts) | Remarks |
|--|---|---|---|--|
| | Bursts* or Continuum Time Int | II or Unclass Time Int | Act Time Int | |
| Feb. 13 0000-0015 1400-2400 | Cont. ← 0009 1 Cont. 2211-45 1 Cont. 2245-2303 2 Cont. 2303-11 3 Cont. 2311-19 2 Cont. 2319-38 3 Cont. 2338 → 3+ | | b 1724 2 g 1737-38 2 g 1740-41 1 b 1749 1 b 2115 1- g 2134 1 b 2153 1- b 2315 2 c 2318-21 3 | |
| | ← 0004 1- 1443-48 1- 1454-55 1- 1510-27 1- 1542-43 1 1557-1611 1- 1621-39 1- 1654 1- 1711-14 1- 1719-46 2 1804-11 1- 1817-21 1- 1837-41 1- 1925-27 1- 2113-17 1- 2126 1- 2133-39 1- 2142-2202 2 2210 1- 2223-26 1- 2234-45 1 2245-2327 2 2327 → 3 | | | |
| Feb. 14 0000-0015 1400-2400 | Cont. ← 0015 3+ Cont. 1400-1641 2 Cont. 1641-1718 3 Cont. 1718-1833 3+ Cont. 1833 → 3 | | | |
| | ← 0015 3 1400-1641 2 1641-1718 3 1718-2000 3+ 2000-46 3 2046-2240 3+ 2240 → 3 | | | |
| Feb. 15 0000-0015 1400-2400 | Cont. ← 0020 3 Cont. 1400-1701 3 Cont. 1701-2026 2 Cont. 2026-2144 1 Cont. 2144-2224 2 Cont. 2224 → 1 | | g 1523-25 1 b 1633 1- g 1635 2 | |
| | ← 0005 3 1414 1- 1428-39 1- 1447-1541 1- 1541-1717 1 1735-1905 1 1916-2031 1- 2045-2058 1- 2058-2153 1 2153-2206 2 2206-2222 3 2222-55 1 2255 → 1- | | | |
| Feb. 16 0000-0020 1400-2400 | Cont. ← 0012 1 Cont. 1435-1819 1 Cont. 1819-1928 2 Cont. 1928 → 1 | | b 1440 3 g 1635 3 g 2230 2 | |
| | ← 0012 1- 1403-1632 1 1632-45 2 1645-1710 1 1710-33 2 1733-1816 1 1816-1943 2 1943-2049 1 2049-2141 1- 2141-2335 1 2335 → 2 | | | |
| Feb. 17 0000-0020 1400-2400 | Cont. ← 0013 1 Cont. 1605-07 1 Cont. 1615-21 1 Cont. 1911-12 2 | Uncl. 2224-30 2 Uncl. 2235-38 3 | g 1508 1 g 1643 2 g 1733 2 b 1816 1 c 1837-38 2 g 1840 2 g 1924 2 | 1733 inverted U burst. 2224-30; 2235-38 These uncl. bursts have some features of Type II bursts. |
| | ← 0013 2 1400-53 2 | | | |

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

IVI

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25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|-----------|-----|---------------------------------|-----------|-----|------------------|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Feb. 18 0000-0020 1400-2400 | | 1453-1540 | 1 | | | | G | 2220-22 | 3 | |
| | | 1554-1605 | 1 | | | | g | 2223 | 1 | |
| | | 1605-22 | 2 | | | | g | 2224 | 2 | |
| | | 1622-1707 | 1 | | | | b | 2321 | 1 | |
| | | 1707-39 | 1- | | | | g | 2322-23 | 1 | |
| | | 1739-1828 | 1 | | | | b | 2354 | 1 | |
| | | 1850-2020 | 1- | | | | | | | |
| | | 2020-27 | 1 | | | | | | | |
| | | 2027-31 | 2 | | | | | | | |
| | | 2031-40 | 3 | | | | | | | |
| | | 2040-2105 | 1 | | | | | | | |
| | | 2105-30 | 2 | | | | | | | |
| | | 2130-2220 | 3 | | | | | | | |
| | | 2220-24 | 2 | | | | | | | |
| | | 2224-55 | 1 | | | | | | | |
| | | 2255 → | 2 | | | | | | | |
| | ← 0018 | 2 | | Uncl. | 1901-02 | 2 | g | 1420 | 3 | |
| | 1502-04 | 1- | | II | 2241-51 | 3 | g | 1439 | 3 | |
| | 1529 | 1- | | | | | b | 1447 | 1- | |
| | 1901-03 | 1 | | | | | g | 1608 | 1 | |
| | 1956-2006 | 1- | | | | | g | 1803 | 2 | |
| | 2015-26 | 1- | | | | | g | 1804 | 2 | |
| | 2054 | 1- | | | | | g | 1842 | 1 | |
| | 2132-34 | 1- | | | | | g | 2005 | 1- | |
| | 2238-44 | 1 | | | | | g | 2012 | 1 | |
| | 2345 → | 1- | | | | | g | 2129 | 1 | |
| | | | | | | | g | 2232-33 | 1- | |
| | | | | | | | g | 2237 | 2 | |
| | | | | | | | b | 2248 | 2 | |
| | | | | | | | g | 2259-2302 | 1- | |
| Feb. 19 0000-0020 1400-2400 | Cont. | 2131-49 | 1- | | | | g | 1947 | 1 | |
| | | | | | | | g | 1959-2000 | 1- | |
| | | 2031-2126 | 1 | | | | g | 2003-04 | 1- | |
| | | 2126-36 | 2 | | | | b | 2044 | 1- | |
| | | 2136-2200 | 1 | | | | b | 2059 | 1 | |
| | | 2314-34 | 1- | | | | g | 2107-08 | 1 | |
| | | | | | | | g | 2254 | 1 | |
| | | | | | | | G | 2314-15 | 2 | |
| | | | | | | | g | 1452 | 1 | |
| | | | | | | | b | 1553 | 1 | |
| Feb. 20 0000-0020 1400-2400 | Cont. | 1813-15 | 2 | Uncl. | 1752 | 1- | g | 1452 | 1 | |
| | Cont. | 1815-19 | 3 | II. | 1753-1804 | 3 | b | 1553 | 1 | |
| | Cont. | 1819-24 | 2 | Uncl. | 1817-19 | 3 | b | 1644 | 1 | |
| | Cont. | 2040-42 | 3 | Uncl. | 1828-33 | 2 | g | 1645 | 2 | |
| | | | | Uncl. | 2043-44 | 2 | g | 1721 | 1 | |
| | | 1400-12 | 1- | | | | g | 1748-49 | 1 | |
| | | 1428-29 | 1- | | | | G | 1806-08 | 1 | |
| | | 1436 | 1- | | | | g | 1902 | 1 | |
| | | 1506 | 1- | | | | g | 1927-28 | 2 | |
| | | 1528-33 | 1- | | | | g | 1935 | 1- | |
| | | 1544-55 | 1- | | | | g | 1957-58 | 2 | |
| | | 1618-20 | 1- | | | | g | 2022 | 2 | 2043 possible |
| | | 1640-42 | 1- | | | | g | 2023 | 3 | small slow drift |
| | | 1757-1807 | 1- | | | | G | 2040-42 | 3 | burst with |
| | | 1807-30 | 1 | | | | g | 2313-14 | 2 | harmonics. |
| | | 1830-1900 | 1- | | | | | | | |
| | | 1918-21 | 1- | | | | | | | |
| | | 1936 | 1- | | | | | | | |
| | | 2011-16 | 1 | | | | | | | |
| | | 2254-55 | 1- | | | | | | | |
| | | 2356 → | 1- | | | | | | | |
| Feb. 21 0000-0020 1400-2400 | ← 0011 | 1- | | | | | G | 1450-51 | 3 | 1451 U burst. |
| | 1400-39 | 1- | | | | | g | 1725 | 3 | |
| | 1501-1602 | 1- | | | | | g | 2006 | 3 | |
| | 1616-18 | 1- | | | | | b | 2013 | 1 | |
| | 1632-54 | 1- | | | | | G | 2122-23 | 2 | |
| | 1654-1716 | 1 | | | | | b | 2245 | 1 | |
| | 1716-1803 | 2 | | | | | g | 2254 | 1 | |
| | 1803-2115 | 1 | | | | | G | 2314-15 | 2 | 2315 U burst. |
| | 2131 | 1- | | | | | | | | |
| | 2149 | 1- | | | | | | | | |
| | 2315 → | 1- | | | | | | | | |
| | ← 0010 | 1- | | | | | g | 1447 | 1 | |
| | 1849-50 | 1- | | | | | b | 1503 | 1 | |
| | 1906-07 | 1- | | | | | b | 2014 | 1 | |
| | 2133-35 | 1- | | | | | g | 2139 | 1 | |
| Feb. 22 0000-0020 1400-2400 | 2150-55 | 1 | | | | | g | 2142 | 1 | |
| | | | | | | | g | 2143-44 | 1 | |
| | | | | | | | g | 2252 | 2 | |
| | | | | | | | g | 2309 | 1 | |
| | | | | | | | b | 2338 | 1 | |
| | | | | | | | b | 2339 | 1 | |
| | | | | | | | g | 2342 | 2 | |
| | | | | | | | b | 2347 | 1- | |
| | | | | | | | b | 1546 | 2 | |
| | | | | | | | g | 1548-49 | 2 | |
| | | | | | | | b | 1550 | 1- | |
| | | | | | | | b | 1552 | 1- | |
| Feb. 23 0000-0020 1400-2400 | | | | | | | b | 1555 | 1 | |
| | ← 0010 | 1 | | | | | | | | |
| | 1400-07 | 1- | | | | | | | | |
| | 1455 | 1- | | | | | | | | |

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SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

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25-580 Mc

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | Type II (Slow Drift Bursts) Unclassified | Type III (Fast Drift Bursts) | Remarks |
|--|--|---|---------------------------------|---------|
| | Bursts* or Continuum Time Int | II or Unclass Time Int | Act Time Int | |
| Feb. 24 0000-0020 1400-2400 | 1717-32 1- | | g 2220 1 | |
| | 1821-25 1- | | g 2320 1 | |
| | 2145 1- | | | |
| | 1400-1614 1- | | g 1558 2 | |
| | 1614-1700 1 | | g 1600 1 | |
| | 1700-41 1- | | G 2346-47 1 | |
| | 1741-2303 1 | | g 2355 1 | |
| Feb. 25 0000-0025 1400-2400 | 2303 → 1- | | G 2357-58 3 | |
| | ← 0019 1- | | g 0007 1 | |
| | 1423-24 1- | | g 0008-09 1 | |
| | 1530 1- | | b 1601 1 | |
| | 1743 1- | | b 1636 1- | |
| | 1759 1- | | g 1639 3 | |
| | 1811-12 1- | | g 1715 1 | |
| | 1820-22 1- | | g 1722 2 | |
| | 1834-35 1- | | g 1749-50 3 | |
| | 1934-37 1- | | g 1827-28 2 | |
| | 1946-2007 1- | | g 1829 2 | |
| | 2018-22 1- | | g 1833 1 | |
| | 2029-41 1- | | g 1837-38 1- | |
| | 2041-57 1 | | b 1847 1 | |
| | 2057-2120 1- | | g 2017 2 | |
| | 2120-49 1 | | b 2038 2 | |
| | 2149 → 1- | | g 2110 3 | |
| | | | b 2145 1- | |
| | Feb. 26 0000-0025 1539-2400 | ← 0015 1- | b 1644 1- | |
| | | 1541-1603 1- | b 2038 3 | |
| | | 1635 1- | g 2042-43 3 | |
| | | 1701-34 1- | b 2051 1- | |
| | | 1854-2011 1- | b 2138 1- | |
| | | 2027-2134 1- | g 2315-16 2 | |
| | | 2134-49 1 | | |
| | | 2149-2203 1- | | |
| | | 2225 → 1- | | |
| Feb. 27 0000-0025 1400-2400 | ← 0017 1- | | g 1601 1 | |
| | 1413 1- | | | |
| | 1550 1- | | | |
| | 1609-37 1- | | | |
| | 1724-1818 1- | | | |
| | 1818-52 1 | | | |
| | 1852-2002 1- | | | |
| | 2002-55 1 | | | |
| | 2055-2140 1- | | | |
| | 2205-16 1- | | | |
| | 2310-42 1- | | | |
| | 2342-53 1 | | | |
| | 2358 → 1- | | | |
| | Feb. 28 0000-0025 1400-2400 | ← 0023 1- | g 2034 3 | |
| | | 1400-22 1- | g 2035 2 | |
| | | 1448-55 1- | g 2111-12 3 | |
| | | 1518 1- | | |
| | | 1551-1616 1- | | |
| | | 1638-39 1- | | |
| | | 1728-1801 1- | | |
| | | 1928 1- | | |
| | | 2008 1- | | |
| | | 2127-35 1- | | |
| | | 2146-2218 1- | | |
| Mar. 1 0000-0025 1400-2400 | 1400-1530 1 | | g 1914 2 | |
| | 1530-1610 1- | | g 2334 1- | |
| | | | g 2359 1 | |
| Mar. 2 0000-0025 1400-2400 | 1400-25 1- | | | |
| | 1438 1- | | | |
| | 1609 1- | | | |
| | 1753 1- | | | |
| | 1855-2034 1- | | | |
| Mar. 3 0000-0030 1400-2400 | 2121-24 1- | | | |
| | | Unc1. 1719 1 | g 1841 1- | |
| Mar. 4 0000-0030 1400-2040 | | | g 1843 1- | |
| | | | b 2030 1 | |
| | | | g 2050-51 2 | |
| | | | g 2053-54 1 | |
| | | | g 2156-57 1- | |
| | | | g 2337 1 | |
| | | | g 2021 1 | |
| Mar. 5 0000-0030 1413-2400 | | | b 2324 2 | |
| | | | g 2331 1- | |
| Mar. 6 0000-0035 1345-2400 | | | g 1720 2 | |
| | | | b 2101 1 | |

$$IV_n$$

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | Type II (Slow Drift Bursts) Unclassified | Type III (Fast Drift Bursts) | Remarks |
|--|--|--|--|---------|
| | Bursts* or Continuum Time Int | II or Unclass Time Int | Act Time Int | |
| Mar. 7 0000-0035 1345-2400 | 1757-59 2 2349-59 1 | Unc1. 1727-28 3 Unc1. 1739-43 1 Unc1. 1746-47 3 Unc1. 1749-51 3 Unc1. 1913 2 | g 1724 2 g 1725 1- g 1726 3 g 1727 3 g 1728-29 1- g 1730 1 G 1731-42 3 g 1746-47 3 g 1751-52 2 g 1753 3 b 1835 2 b 1913 1- g 2120-22 1 | |
| Mar. 8 0000-0035 1330-2400 | 1453-56 1- 1456-1546 1 1546-1741 2 1741-1920 3 1920-58 2 1958-2042 1 2042-2134 1- 2134-52 1 2152-2218 1- 2218-44 1 2244 → 1- | | g 1600 2 b 1732 1- G 2118-21 2 G 2122-27 3 b 2128 1- | |
| Mar. 9 0000-0035 1330-2400 | ← 0016 1- 1338-1425 2 1425-38 1 1438-1644 1- 1658-1720 1 1720-27 2 1727-40 1 1740-41 1 2010 1- 2132 1- 2140-44 1 2238 1- 2244 1- | II. 1723-27 3 Unc1. 1732-38 1 Unc1. 1743 2 Unc1. 1752-54 3 | b 1631 1- g 1721-22 1- g 1723 1 g 1724 1 b 1730 1 b 1743 1 b 1808 2 b 1841 1 b 2007 1- g 2009 1 g 2107-08 1 g 2123 1- b 2128 1 g 2132-33 3 g 2138 1 b 2215 2 g 2221 1- g 2231 2 g 2234 1- g 2240 1 g 2241-42 2 | |
| Mar. 10 0000-0040 1340-2400 | 1557-1743 1- 1758 1- 1837-1927 1- 1955 1- 2012 1- 2043-2100 1- 2100-56 1 2156-2319 1- 2337 → 1- | | b 1443 1- b 1455 3 g 1612-13 2 g 1652 1 g 1703 1- G 1735-38 2 b 1746 1 G 1803-05 2 b 1807 3 g 1809 1 g 1811-12 2 g 1824-25 1- g 1920 3 b 1932 2 g 1940 2 b 2017 1- b 2018 3 b 2020 2 g 2023-26 2 g 2032 1 g 2141-42 1- g 2144-45 1- | |
| Mar. 11 0000-0040 1331-2400 | Cont. 1814 1 Cont. 1820-21 3 Cont. 1821-22 1- ← 0030 1- 1411 1- 1810-11 1- 1831 1 2006 1 | Unc1. 1825 1- | b 0005 1 g 1423 1- g 1723-24 2 b 1730 1 g 1745-47 1 g 1758-59 1- b 1809 1- C 1812-15 1 C 1816-20 1 g 1822-23 1- b 1906 1- g 2009-10 3 b 2016 1- b 2147 3 | |
| Mar. 12 0000-0040 1331-2400 | 1333-1416 1 1416-1441 1- 1512-40 1- 1930 1- | | g 1653-54 3 g 1655-56 2 b 1743 3 b 1806 3+ | |

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| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|---------|-----|---------------------------------|---------|-----|--------------|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Mar. 13 0000-0040 1400-2400 | | 1936 | 1- | | | | g | 1821 | 1- | |
| | | 2116 | 1- | | | | | | | |
| | | 2327-34 | 1- | | | | | | | |
| | | 0000-0031 | 1- | | | | g | 0024-25 | 3 | |
| | | 1516-24 | 1- | | | | b | 0026 | 1 | |
| | | 1642-53 | 1- | | | | b | 1830 | 1 | |
| | | 1715-40 | 1- | | | | g | 1840 | 3 | |
| | | 1759-1804 | 1- | | | | | | | |
| | | 1824-45 | 1- | | | | | | | |
| | | 1917 | 1- | | | | | | | |
| | | 2116-21 | 1- | | | | | | | |
| | | 2208 | 1- | | | | | | | |
| | | 2225 | 1- | | | | | | | |
| | | 2241 | 1- | | | | | | | |
| Mar. 14 0000-0040 1331-2400 | | 2342 → | 1 | | | | | | | |
| | | ← 0020 | 1- | Uncl. | 2023-24 | 2 | g | 0025-26 | 2 | |
| | | 1624-26 | 1- | | | | g | 1400 | 1- | |
| | | 1707 | 1- | | | | b | 1457 | 1- | |
| | | 1835-57 | 1- | | | | g | 1803-04 | 2 | |
| | | 2001-11 | 1- | | | | g | 2257-58 | 2 | |
| | | 2042-50 | 1- | | | | | | | |
| Mar. 15 0000-0045 1332-2400 | | 0011-12 | 1- | | | | g | 1950 | 1 | |
| | | 1405 | 1- | | | | | | | |
| | | 1521-43 | 1- | | | | | | | |
| | | 1555-56 | 1- | | | | | | | |
| | | 2241-42 | 1- | | | | | | | |
| Mar. 16 0000-0045 1400-2400 | | ← 0004 | 1- | | | | | | | |
| | | 1722-48 | 1- | | | | | | | |
| Mar. 17 0000-0044 1332-2400 | | 1339-57 | 1 | | | | g | 0013 | 1- | |
| | | 1619-20 | 1- | | | | g | 1335 | 1- | |
| | | 1652 | 1- | | | | g | 1417 | 1 | |
| | | 1844 | 1- | | | | b | 2148 | 2 | |
| | | 1916-20 | 1- | | | | g | 2150 | 1 | |
| | | 1928 | 1- | | | | | | | |
| | | 1936-2006 | 1- | | | | | | | |
| | | 2006-2140 | 1 | | | | | | | |
| | | 2140-2203 | 1- | | | | | | | |
| | | 2316-31 | 1- | | | | | | | |
| | | 1332-50 | 1- | | | | b | 1701 | 3 | 2114 U burst |
| | | 1402-03 | 1- | | | | g | 1923 | 2 | |
| | | 1414-42 | 1 | | | | g | 1941 | 2 | |
| Mar. 18 0000-0045 1332-2400 | | 1517-1602 | 1- | | | | b | 2114 | 1 | |
| | | 1614-34 | 1- | | | | | | | |
| | | 1701-51 | 1- | | | | | | | |
| | | 1751-1820 | 1 | | | | | | | |
| | | 1820-35 | 2 | | | | | | | |
| | | 1835-1908 | 1 | | | | | | | |
| | | 1908-2053 | 1- | | | | | | | |
| | | 2053-2110 | 1 | | | | | | | |
| | | 2110-29 | 2 | | | | | | | |
| | | 2129-2239 | 1 | | | | | | | |
| | | 2239 → | 1- | | | | | | | |
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| Mar. 19 000-0045 1340-2400 | Cont. | 2209-2314 | 1- | | | | b | 1448 | 1- | |
| | | | | | | | b | 1523 | 1 | |
| | | 1356-1428 | 1- | | | | g | 1545 | 1 | |
| | | 1428-1504 | 1 | | | | g | 1817-18 | 1- | |
| | | 1504-17 | 1- | | | | G | 1820-22 | 2 | |
| | | 1548 | 1- | | | | b | 2030 | 1 | |
| | | 1806 | 1- | | | | g | 2050 | 1- | |
| | | 1855-1922 | 1- | | | | b | 2051 | 1- | |
| | | 1934-39 | 1- | | | | g | 2121 | 1 | |
| | | 2007-23 | 1- | | | | g | 2132-33 | 1- | |
| | | 2023-43 | 1 | | | | b | 2149 | 3 | |
| | | 2043-2108 | 1- | | | | G | 2151-53 | 2 | |
| | | 2108-24 | 1- | | | | g | 2154-55 | 3 | |
| | | 2124-2204 | 1 | | | | g | 2157 | 1 | |
| | | 2204-2314 | 2 | | | | b | 2223 | 1 | |
| | | 2314-51 | 1- | | | | g | 2307-08 | 1 | |
| | | | | | | | g | 2309 | 1 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Mar. 20 0000-0044 1351-2400 | Cont. | 1542-1923 | 2 | | | | b | 1442 | 2 | |
| | Cont. | 1923-2010 | 1 | | | | g | 1450 | 1 | |
| | Cont. | 2227-56 | 1 | | | | g | 1531-32 | 1 | |
| | Cont. | 2256 → | 2 | | | | b | 1534 | 1- | |
| | | | | | | | g | 1535 | 1- | |
| | | ← 0037 | 1- | | | | g | 1542-43 | 2 | |
| | | 1351-55 | 1- | | | | b | 1624 | 2 | |
| | | 1408-22 | 1- | | | | b | 2314 | 2 | |
| | | 1435-1529 | 1- | | | | b | 2342 | 2 | |
| | | 1529-42 | 1 | | | | | | | |
| | | 1542-1652 | 2 | | | | | | | |

SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

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25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|------|-----|---------------------------------|---------|-----|---------|
| | Bursta* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| Mar. 21 0000-0045 1330-2400 | | 1652-1731 | 3 | | | | | | | |
| | | 1731-50 | 2 | | | | | | | |
| | | 1750-1917 | 3 | | | | | | | |
| | | 1917-2007 | 2 | | | | | | | |
| | | 2007-2141 | 1 | | | | | | | |
| | | 2210-22 | 1- | | | | | | | |
| | | 2222 → | 2 | | | | | | | |
| | Cont. | ← 0040 | 2 | | | | G | 1333-35 | 1 | |
| | | | | | | | b | 1531 | 1 | |
| | | ← 0040 | 2 | | | | g | 1713-14 | 2 | |
| | | 1330-51 | 1- | | | | b | 1730 | 1- | |
| | | 1408-11 | 1- | | | | g | 1910-11 | 1 | |
| | | 1438-45 | 1- | | | | g | 2120 | 2 | |
| | | 1505-1617 | 1- | | | | b | 2122 | 1 | |
| | | 1617-52 | 1 | | | | g | 2146 | 2 | |
| | | 1652-1802 | 1- | | | | g | 2159 | 2 | |
| | | 1802-54 | 1 | | | | g | 2314 | 1 | |
| | | 1854-1909 | 1- | | | | g | 2331 | 1 | |
| | | 1909-2057 | 1 | | | | | | | |
| | | 2057-2142 | 1- | | | | | | | |
| | | 2202-56 | 1 | | | | | | | |
| | | 2256 → | 1- | | | | | | | |
| Mar. 22 0000-0045 1331-2400 | Cont. | 1844-45 | 1 | | | | g | 1409 | 2 | |
| | | | | | | | b | 1419 | 1 | |
| | | ← 0035 | 1- | | | | g | 1424 | 2 | |
| | | 1338-1802 | 1- | | | | g | 1444-45 | 2 | |
| | | 1802-1915 | 1 | | | | g | 1446 | 2 | |
| | | 1915-2001 | 1- | | | | g | 1448-51 | 2 | |
| | | 2001-49 | 1 | | | | b | 1551 | 1 | |
| | | 2049-2236 | 1- | | | | g | 1641 | 3 | |
| | | 2236-2301 | 1 | | | | g | 1859 | 3 | |
| | | 2301-22 | 2 | | | | g | 1947 | 1 | |
| | | 2322 → | 1 | | | | b | 2155 | 1 | |
| | | | | | | | g | 2245-46 | 2 | |
| | | | | | | | g | 2350 | 2 | |
| | | ← 0042 | 1 | | | | b | 1326 | 2 | |
| | | 1319-1408 | 1 | | | | g | 1327-28 | 2 | |
| Mar. 23 0000-0045 1311-2400 | | 1408-1420 | 1- | | | | g | 1332 | 2 | |
| | | 1446-49 | 1- | | | | g | 1333 | 1- | |
| | | 1501-09 | 1- | | | | G | 1335-36 | 2 | |
| | | 1548-52 | 1 | | | | g | 1412 | 2 | |
| | | 1607-18 | 1- | | | | g | 1552 | 1 | |
| | | 1710-21 | 1- | | | | b | 1607 | 3 | |
| | | 1738-1814 | 1- | | | | g | 1717 | 2 | |
| | | 1814-1908 | 1 | | | | g | 1740 | 3 | |
| | | 1908-38 | 2 | | | | b | 1809 | 2 | |
| | | 1938 → | 1 | | | | g | 1816 | 2 | |
| | | | | | | | g | 1915 | 1 | |
| | | | | | | | g | 2004 | 2 | |
| | | ← 0035 | 1 | | | | g | 1619-20 | 2 | |
| | | 1337-1653 | 1 | | | | b | 1728 | 1 | |
| | | 1653-1858 | 2 | | | | b | 1839 | 1- | |
| Mar. 24 0000-0050 1332-2400 | | 1858-1916 | 1 | | | | b | 1846 | 1 | |
| | | 1916-18 | 2 | | | | b | 1857 | 1- | |
| | | 1918-55 | 1 | | | | b | 1918 | 1- | |
| | | 1955-2023 | 1- | | | | b | 1957 | 1- | |
| | | 2042-43 | 1- | | | | b | 2152 | 1 | |
| | | 2116-21 | 1- | | | | g | 2303-04 | 1 | |
| | | 2347 → | 1- | | | | b | 2354 | 3 | |
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| Mar. 25 0000-0050 1346-2400 | Cont. | 1556 → | 1 | Uncl. | 1754 | 2 | g | 1708 | 1 | |
| | | 0023-24 | 1- | | | | g | 1710 | 1- | |
| | | 1407-1551 | 2 | | | | b | 1724 | 1 | |
| | | 1551-1758 | 1 | | | | g | 1941 | 2 | |
| | | 1758-1825 | 1- | | | | g | 2020 | 1 | |
| | | 1825-1931 | 1 | | | | g | 2048 | 2 | |
| | | 1931-2049 | 2 | | | | g | 2132 | 1 | |
| | | 2049-2129 | 3 | | | | g | 2203 | 1- | |
| | | 2129-2324 | 2 | | | | g | 2203 | 1- | |
| | | 2324 → | 1 | | | | b | 2206 | 1- | |
| | | | | | | | g | 2212 | 3 | |
| | | | | | | | g | 2217 | 2 | |
| | | | | | | | g | 2312 | 2 | |
| | | | | | | | g | 2318 | 3 | |
| | | | | | | | b | 2350 | 1 | |
| Mar. 26 0000-0050 1313-2400 | Cont. | ← 0041 | 1 | Uncl. | 1846 | 3 | g | 0003 | 1 | |
| | Cont. | 2120 | 3 | | | | g | 0004 | 3 | |
| | | | | | | | G | 0005-07 | 3 | |
| | | ← 0036 | 1- | | | | g | 0032 | 2 | |
| | | 1325-42 | 1- | | | | g | 0039-40 | 1- | |
| | | 1425 | 1- | | | | g | 1336 | 1 | |
| | | 1520-51 | 1- | | | | b | 1343 | 1 | |
| | | 1642-1715 | 1- | | | | g | 1509 | 1- | |
| | | 1818 | 1- | | | | g | 1626-27 | 1- | |
| | | 1832-45 | 1- | | | | g | 1629-30 | 1- | |
| | | 1937-2050 | 1- | | | | g | 1631 | 1- | |
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SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

Fort Davis

25-580 Mc.

| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | Type II (Slow Drift Bursts) Unclassified | Type III (Fast Drift Bursts) | Remarks | | | | | | | | | | | |
|--|--|---|---------------------------------|------------------|-----------|-----|-----------|---------|-----|--|---------|----|--|--|--|
| | Bursta* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | | | | | | |
| Mar. 27 0000-0050 1315-2400 | Cont. Cont. | 2110-14 | 1- | | | | g | 1707 | 1 | | | | | | |
| | | 2114-53 | 1 | | | | g | 1711 | 2 | | | | | | |
| | | 2153-2214 | 1- | | | | g | 1744 | 1 | | | | | | |
| | | 2214-55 | 1 | | | | g | 1828 | 2 | | | | | | |
| | | 2255-2320 | 1- | | | | g | 1911-12 | 1 | | | | | | |
| | | 2344 → | 1- | | | | G | 1913-15 | 1 | | | | | | |
| | | | | | | | g | 1916 | 1- | | | | | | |
| | | | | | | | g | 1917-18 | 1- | | | | | | |
| | | | | | | | g | 1919-20 | 1- | | | | | | |
| | | | | | | | b | 1933 | 1- | | | | | | |
| | | | | | | | b | 2002 | 1- | | | | | | |
| | | | | | | | G | 2003-05 | 2 | | | | | | |
| | | | | | | | G | 2009-10 | 3 | | | | | | |
| | | | | | | | b | 2026 | 2 | | | | | | |
| | | | | | | | g | 2053 | 3 | | | | | | |
| | | | | | | | g | 2100 | 2 | | | | | | |
| | | | | | | | g | 2103-04 | 1 | | | | | | |
| | | | | | | | g | 2120 | 3 | | | | | | |
| | | | | | | | g | 2144 | 3 | | | | | | |
| | | | | | | | g | 2206 | 2 | | | | | | |
| | | | | | | | g | 2257 | 1- | | | | | | |
| | | | | | | | g | 2302-03 | 1 | | | | | | |
| | | | | | | | g | 2318 | 3 | | | | | | |
| | | | | | | | | | g | | 0016-17 | 3 | | | |
| | | | | | | | | | g | | 0019 | 1- | | | |
| | | | | | | | | | G | | 0026-28 | 2 | | | |
| | | | | | | | ← 0036 | 1- | b | | 0051 | 1- | | | |
| | | | | | | | 1325-1708 | 3+ | g | | 1342 | 3 | | | |
| | | | | | | | 1708-1840 | 3 | g | | 1427 | 1 | | | |
| | | | | | | | 1840-1914 | 2 | g | | 1428 | 2 | | | |
| | | | | | | | 1914-2241 | 3 | g | | 1437 | 3 | | | |
| | | | | | | | 2241 → | 3+ | g | | 1441 | 1 | | | |
| | | | | | | | | | g | | 1454 | 1 | | | |
| | | | | b | 1530 | 3+ | | | | | | | | | |
| | | | | g | 1600 | 2 | | | | | | | | | |
| | | | | g | 1602 | 3 | | | | | | | | | |
| | | | | g | 1605 | 2 | | | | | | | | | |
| | | | | b | 1749 | 1 | | | | | | | | | |
| | | | | b | 1758 | 3 | | | | | | | | | |
| | | | | b | 1805 | 2 | | | | | | | | | |
| | | | | b | 1812 | 1 | | | | | | | | | |
| | | | | g | 1822 | 1 | | | | | | | | | |
| | | | | b | 1832 | 1 | | | | | | | | | |
| | | | | g | 1844-45 | 3 | | | | | | | | | |
| | | | | b | 1846 | 2 | | | | | | | | | |
| | | | | b | 1858 | 1 | | | | | | | | | |
| | | | | b | 1906 | 1- | | | | | | | | | |
| | | | | g | 1908 | 1 | | | | | | | | | |
| | | | | g | 1910 | 1 | | | | | | | | | |
| | | | | G | 1916-2140 | 2 | | | | | | | | | |
| | | | | b | 2158 | 1 | | | | | | | | | |
| | | | | g | 2312-13 | 2 | | | | | | | | | |
| | | | | b | 2322 | 1- | | | | | | | | | |
| Mar. 28 0000-0050 1352-2400 | Cont. Cont. | ← 0043 | 2 | | | | g | 1605 | 1- | | | | | | |
| | | 1729-37 | 3 | | | | b | 1637 | 2 | | | | | | |
| | | | | | | | b | 1647 | 1 | | | | | | |
| | | ← 0047 | 3 | | | | b | 1701 | 2 | | | | | | |
| | | 1352-2040 | 1 | | | | b | 1706 | 1 | | | | | | |
| | | 2040-54 | 2 | | | | b | 1717 | 1- | | | | | | |
| | | 2054 → | 1 | | | | G | 1725-28 | 1 | | | | | | |
| | | | | | | | G | 1729-37 | 3 | | | | | | |
| | | | | | | | b | 1805 | 1- | | | | | | |
| | | | | | | | b | 1808 | 1- | | | | | | |
| | | | | | | | g | 1815-16 | 1- | | | | | | |
| | | | | | | | b | 1820 | 1- | | | | | | |
| | | | | | | | b | 1834 | 1- | | | | | | |
| | | | | | | | b | 1858 | 3 | | | | | | |
| | | | | | | | b | 1930 | 1- | | | | | | |
| Mar. 29 0000-0049 1312-2400 | Cont. Cont. | 1901-2054 | 1 | | | | b | 0034 | 1- | | | | | | |
| | | 2054 → | 2 | | | | g | 1318-19 | 1 | | | | | | |
| | | | | | | | G | 1419-20 | 2 | | | | | | |
| | | ← 0041 | 1 | | | | G | 1420-23 | 1- | | | | | | |
| | | 1312-1420 | 2 | | | | g | 1423-24 | 2 | | | | | | |
| | | 1420-33 | 3 | | | | G | 1424-31 | 1- | | | | | | |
| | | 1433-1615 | 2 | | | | b | 1432 | 2 | | | | | | |
| | | 1615-1755 | 3 | | | | g | 1434 | 2 | | | | | | |
| | | 1755-1827 | 3+ | | | | g | 1615 | 1 | | | | | | |
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SOLAR RADIO EMISSION SPECTRUM OBSERVATIONS

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25-580 Mc

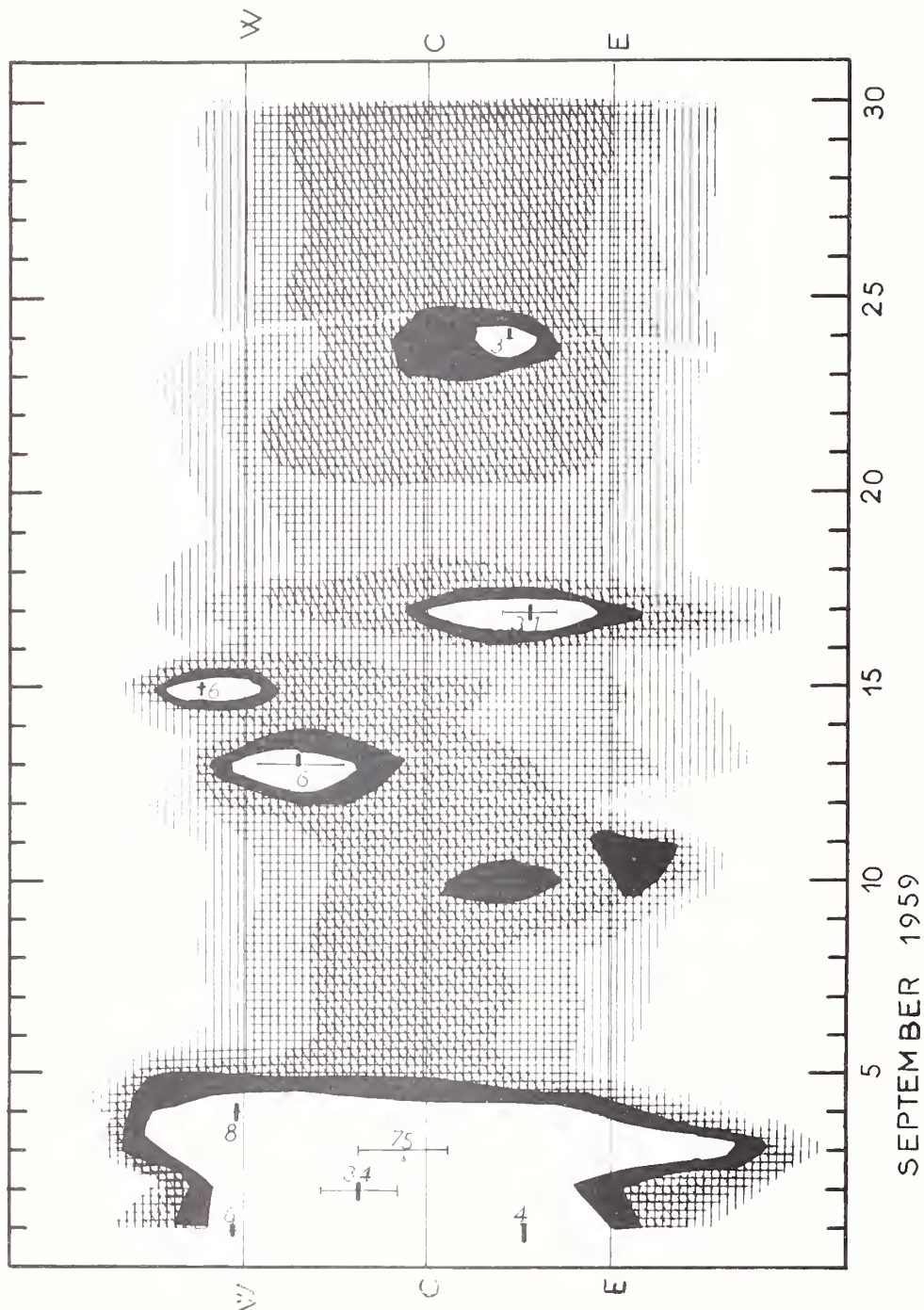
| Date and Observing Times (U.T.) 1959 | Type I (Noise Storms and Continuum) | | | Type II (Slow Drift Bursts) Unclassified | | | Type III (Fast Drift Bursts) | | | Remarks |
|--|--|-----------|-----|---|------|-----|---------------------------------|-----------|-----|--------------|
| | Bursts* or Continuum | Time | Int | II or Unclass | Time | Int | Act | Time | Int | |
| | | 1827-1904 | 3 | | | | g | 1706-07 | 2 | |
| | | 1904-10 | 3+ | | | | g | 1722 | 1 | |
| | | 1910-2110 | 3 | | | | g | 1739-40 | 2 | |
| | | 2110 → | 3+ | | | | b | 1746 | 1 | |
| | | | | | | | b | 1800 | 1 | |
| | | | | | | | b | 1802 | 1 | |
| | | | | | | | g | 1817 | 1 | |
| | | | | | | | g | 1824-25 | 2 | |
| | | | | | | | g | 1826 | 2 | |
| | | | | | | | b | 1828 | 1- | |
| | | | | | | | b | 1830 | 1- | |
| | | | | | | | b | 1858 | 1- | |
| | | | | | | | G | 1907-10 | 3 | |
| | | | | | | | g | 1932 | 2 | |
| | | | | | | | b | 1952 | 3 | |
| | | | | | | | b | 2022 | 3 | |
| | | | | | | | g | 2028-29 | 1 | |
| | | | | | | | b | 2032 | 1- | |
| | | | | | | | g | 2120-21 | 3 | |
| | | | | | | | C | 2137-38 | 2 | |
| | | | | | | | b | 2147 | 2 | |
| | | | | | | | g | 2155-56 | 2 | |
| | | | | | | | g | 2229 | 1 | |
| | | | | | | | g | 2309 | 1 | |
| | | | | | | | G | 2341-42 | 2 | |
| | | | | | | | g | 2343 | 3 | |
| | | | | | | | G | 2347-48 | 1- | |
| Mar. 30 0000-0054 1311-2400 | Cont. | ← 0054 | 2 | | | | b | 0037 | 2 | |
| | | ← 0054 | 3+ | | | | g | 1324 | 3 | |
| | | 1311-1642 | 3 | | | | g | 1346 | 2 | |
| | | 1642-59 | 2 | | | | b | 1420 | 2 | |
| | | 1659-1737 | 3 | | | | C | 1637-39 | 2 | 2044 U Burst |
| | | 1737-54 | 2 | | | | b | 1645 | 2 | |
| | | 1754-1903 | 3 | | | | g | 1747 | 3 | |
| | | 1903-43 | 2 | | | | g | 1756 | 1 | |
| | | 1943-55 | 3 | | | | b | 1806 | 1- | |
| | | 1955-2021 | 2 | | | | b | 1818 | 3+ | |
| | | 2021-2200 | 3 | | | | g | 1827 | 2 | |
| | | 2200-56 | 2 | | | | g | 1900 | 1- | |
| | | 2256 | 3 | | | | g | 1905-06 | 1- | |
| | | | | | | | b | 1935 | 1 | |
| | | | | | | | G | 1939-46 | 1 | |
| | | | | | | | b | 2039 | 2 | |
| | | | | | | | G | 2044-46 | 2 | |
| | | | | | | | g | 2049-51 | 2 | |
| | | | | | | | b | 2059 | 1- | |
| | | | | | | | b | 2140 | 2 | |
| | | | | | | | g | 2156 | 1 | |
| | | | | | | | g | 2221-23 | 1 | |
| | | | | | | | g | 2239 | 2 | |
| | | | | | | | g | 2246 | 1- | |
| | | | | | | | g | 2251-52 | 1- | |
| | | | | | | | b | 2254 | 1- | |
| Mar. 31 0000-0052 1312-2400 | Cont. | 2158-59 | 3 | | | | g | 0023 | 2 | 1328 U Burst |
| | | ← 0052 | 3 | | | | g | 0037-38 | 1 | |
| | | 1312-53 | 2 | | | | G | 1327-28 | 3 | |
| | | 1353-1501 | 1 | | | | G | 1336-37 | 3 | |
| | | 1501-11 | 2 | | | | g | 1350-51 | 1 | |
| | | 1511-1635 | 1 | | | | b | 1356 | 1- | |
| | | 1635-1717 | 2 | | | | G | 1357-59 | 1 | |
| | | 1717-56 | 1 | | | | b | 1400 | 3 | |
| | | 1756-1820 | 2 | | | | G | 1402-03 | 2 | |
| | | 1820-1857 | 1 | | | | b | 1406 | 1 | |
| | | 1857-1900 | 2 | | | | G | 1443-46 | 2 | |
| | | 1900-24 | 1 | | | | b | 1448 | 1 | |
| | | 1924-51 | 2 | | | | g | 1453-54 | 1 | |
| | | 1951-2137 | 1 | | | | g | 1501 | 2 | |
| | | 2137-49 | 2 | | | | g | 1541 | 1- | |
| | | 2149 → | 1 | | | | b | 1645 | 3 | |
| | | | | | | | g | 1703-07 | 1 | |
| | | | | | | | G | 1721-40 | 1 | |
| | | | | | | | b | 1747 | 2 | |
| | | | | | | | g | 1758 | 3 | |
| | | | | | | | g | 1803-04 | 2 | |
| | | | | | | | g | 1812 | 2 | |
| | | | | | | | g | 1834-35 | 1 | |
| | | | | | | | b | 1840 | 1 | |
| | | | | | | | g | 1848-49 | 1- | |
| | | | | | | | g | 1854-55 | 2 | |
| | | | | | | | g | 1858-1902 | 2 | |
| | | | | | | | b | 1913 | 2 | |
| | | | | | | | g | 1927 | 2 | |
| | | | | | | | G | 1929-37 | 1- | |
| | | | | | | | g | 1944 | 1 | |
| | | | | | | | g | 1951-52 | 2 | |
| | | | | | | | g | 2002 | 1 | |
| | | | | | | | b | 2027 | 2 | |
| | | | | | | | g | 2040 | 1 | |
| | | | | | | | g | 2043 | 2 | |

SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATIONS

SEPTEMBER 1959

Nançay

169 Mc

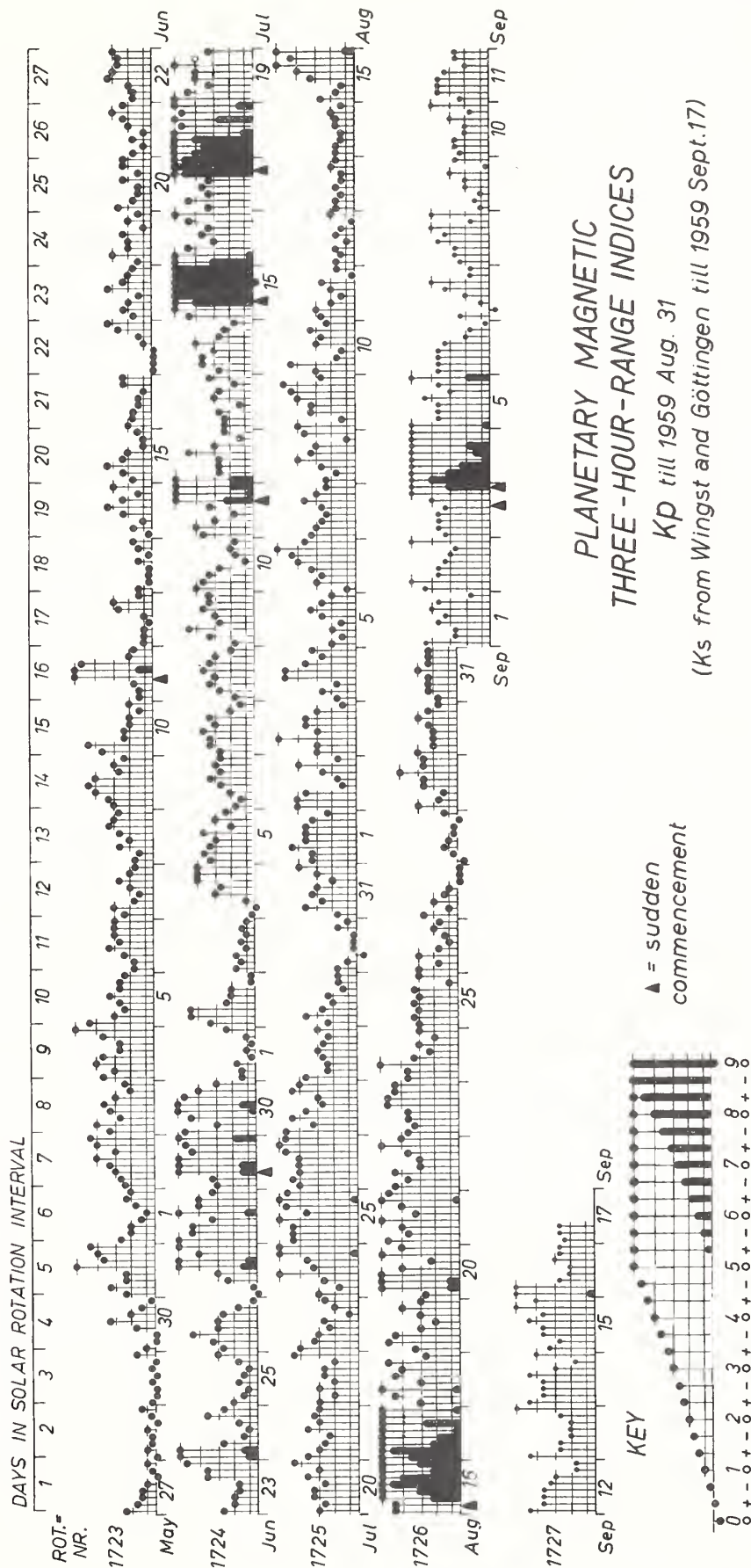


SEPTEMBER 1959

GEOMAGNETIC ACTIVITY INDICES

AUGUST 1959

| Aug. 1959 | C | Values Kp | | | | | | | | Sum | Ap | Final Selected Days | |
|--------------|-----|-------------------------|----|----|----|----|----|----|----|-------|-----|---------------------------|----|
| | | Three hour Gr. interval | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| 1 | 1.0 | 3+ | 3+ | 4+ | 4- | 4- | 4- | 3+ | 2+ | 28- | 20 | Five Quiet | |
| 2 | 0.9 | 4o | 4o | 4- | 1+ | 2- | 3- | 4o | 2- | 23o | 16 | | |
| 3 | 1.0 | 3o | 3o | 5o | 3o | 4- | 4- | 3o | 1+ | 26- | 20 | | |
| 4 | 1.0 | 2- | 3- | 2- | 5- | 5- | 4- | 3- | 3+ | 25o | 19 | | 12 |
| 5 | 0.6 | 2o | 1+ | 2o | 1+ | 3- | 3+ | 3- | 2o | 17+ | 9 | | 13 |
| | | | | | | | | | | | | 14 | |
| 6 | 1.1 | 1o | 3o | 3- | 3+ | 4o | 4+ | 5o | 4- | 27o | 22 | 27 | |
| 7 | 1.0 | 3+ | 3o | 3- | 2+ | 3- | 4- | 3o | 2+ | 23o | 14 | 28 | |
| 8 | 0.8 | 2+ | 2- | 3- | 4o | 3+ | 3o | 1o | 4- | 22- | 14 | | |
| 9 | 1.1 | 4o | 1+ | 3+ | 3+ | 4o | 4+ | 5- | 3- | 28- | 22 | | |
| 10 | 0.8 | 3o | 4+ | 2- | 1+ | 3o | 3- | 3+ | 2+ | 22- | 14 | | |
| 11 | 0.4 | 3- | 3o | 2o | 1+ | 2o | 3- | 1- | 2- | 16o | 8 | Five Disturbed | |
| 12 | 0.2 | 2- | 1+ | 2- | 1o | 2- | 1+ | 1- | 2o | 11+ | 5 | | |
| 13 | 0.3 | 2- | 2- | 1+ | 2- | 1+ | 1+ | 2o | 2- | 13- | 6 | | |
| 14 | 0.3 | 2- | 2- | 1+ | 1+ | 2- | 2- | 2o | 1+ | 13- | 6 | | 16 |
| 15 | 1.2 | 3- | 2- | 1+ | 3+ | 4o | 5o | 4+ | 6- | 28o | 27 | | 17 |
| | | | | | | | | | | | | 20 | |
| 16 | 2.0 | 4+ | 4+ | 7- | 7+ | 8+ | 8o | 7- | 7+ | 53o | 130 | 21 | |
| 17 | 1.8 | 8- | 8+ | 7- | 6+ | 5+ | 7o | 5o | 5+ | 52- | 114 | 23 | |
| 18 | 1.2 | 3o | 4+ | 5+ | 3o | 4+ | 4o | 5- | 3- | 31+ | 28 | | |
| 19 | 1.1 | 3+ | 5- | 4+ | 3o | 2o | 3o | 4o | 3o | 27+ | 21 | | |
| 20 | 1.4 | 3- | 6- | 6- | 5o | 4o | 2+ | 5o | 4o | 34+ | 28 | | |
| 21 | 1.3 | 5- | 4- | 4o | 5o | 3+ | 4o | 5+ | 5- | 35- | 34 | Ten Quiet | |
| 22 | 1.1 | 4+ | 4- | 4+ | 3o | 3o | 4- | 5o | 4o | 31o | 27 | | |
| 23 | 1.2 | 4- | 3+ | 4- | 4- | 5- | 5- | 4+ | 4+ | 32+ | 28 | | |
| 24 | 1.1 | 4- | 4- | 5o | 3+ | 2+ | 3o | 2o | 3o | 26o | 20 | | 5 |
| 25 | 0.9 | 3o | 3+ | 3o | 3+ | 3o | 3+ | 1o | 3o | 23o | 15 | | 11 |
| | | | | | | | | | | | | 12 | |
| 26 | 0.4 | 3o | 2- | 3o | 2- | 1o | 1+ | 2o | 2- | 15+ | 8 | 13 | |
| 27 | 0.2 | 3- | 1o | 2o | 1+ | 1o | 0+ | 0+ | 0+ | 9o | 5 | 14 | |
| 28 | 0.1 | 0o | 1- | 1+ | 1o | 1- | 1- | 0+ | 1+ | 6o | 3 | 26 | |
| 29 | 0.7 | 3o | 2- | 1+ | 3- | 3- | 4o | 3- | 3- | 21- | 13 | 27 | |
| 30 | 0.6 | 3o | 2o | 2o | 2o | 2+ | 3o | 2+ | 2- | 18+ | 9 | 28 | |
| 31 | 0.6 | 2- | 2+ | 2+ | 2+ | 3o | 2+ | 2+ | 2+ | 19- | 9 | 30 | |
| | | | | | | | | | | | | 31 | |
| Mean: | | 0.88 | | | | | | | | Mean: | | 23 | |



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH ATLANTIC

AUGUST 1959

| Aug. 1959 | North Atlantic 6-hourly quality figures | | | | Short-term forecasts issued about one hour in advance of: | | | | Whole day index | Advance forecasts (J-reports) for whole day; issued in advance by: | | | | Geomag- netic K _{Fr} Half Day (1) (2) |
|----------------------|---|----------------|----------------|----------------|---|----|----|----|-----------------------|---|-------------------|--------------------|------------------|--|
| | 00 to 06 | 06 to 12 | 12 to 18 | 18 to 24 | 00 | 06 | 12 | 18 | | 1-7 days Final | 1-7 days Js | 1-7 days SDW | 1-7 days J | |
| 1 | 6o | 4+ | 6+ | 7- | 6 | 6 | 6 | 6 | 6- | 6 | | | 6 | (4) 3 |
| 2 | 6- | 5o | 7- | 7o | 6 | 5 | 7 | 7 | 6o | 5 | | | 5 | (4) 2 |
| 3 | 7- | 5+ | 6+ | 7o | 6 | 6 | 7 | 6 | 6+ | 5 | | | 5 | (4) 3 |
| 4 | 7o | 6o | 6o | 6+ | 7 | 6 | 7 | 7 | 6+ | 6 | | | 6 | 2 3 |
| 5 | 7- | 5+ | 7- | 7- | 7 | 6 | 7 | 7 | 6+ | 6 | | | 6 | 1 3 |
| 6 | 7- | 5+ | 6+ | 6o | 7 | 6 | 7 | 7 | 6+ | 7 | | | 7 | (4) 3 |
| 7 | 5o | 5+ | 6+ | 7- | 7 | 5 | 6 | 6 | 6- | 7 | | | 7 | 3 3 |
| 8 | 6+ | 5- | 6- | 6+ | 7 | 6 | 6 | 6 | 6- | 7 | | | 7 | 3 3 |
| 9 | 7- | 6o | 6+ | 7- | 6 | 6 | 6 | 6 | 6+ | 7 | | | 7 | 3 3 |
| 10 | 6o | 6- | 7o | 7- | 7 | 5 | 7 | 7 | 6+ | 6 | | | 6 | 3 3 |
| 11 | 7- | 6o | 7- | 7o | 7 | 6 | 7 | 7 | 7- | 6 | | | 6 | 2 2 |
| 12 | 7o | 7- | 7- | 7o | 7 | 6 | 7 | 7 | 7- | 6 | | | 6 | 1 1 |
| 13 | 7+ | 7- | 7+ | 7+ | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 2 2 |
| 14 | 7o | 6+ | 7+ | 7+ | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 2 1 |
| 15 | 7+ | 7o | 7+ | 7- | 7 | 7 | 7 | 7 | 7o | 7 | | | 7 | 2 (5) |
| 16 | 6+ | 3+ | 5o | 4- | 5 | 6 | 3 | 4 | (4+) | 7 | | | 7 | (5) (6) |
| 17 | 2o | 1+ | 3+ | 4- | 2 | 1 | 3 | 4 | (3-) | 7 | | | 7 | (7) (4) |
| 18 | 3+ | 3+ | 5+ | 6o | 3 | 3 | 6 | 6 | (4o) | 4 | 4 | | 7 | (4) 3 |
| 19 | 6o | 4o | 6o | 6+ | 5 | 4 | 6 | 6 | 5+ | 5 | 5 | | 5 | 3 3 |
| 20 | 6+ | 5+ | 6o | 7- | 6 | 2 | 5 | 6 | 6o | 5 | | | 5 | (4) (4) |
| 21 | 6o | 5- | 6+ | 6+ | 6 | 4 | 6 | 7 | 6- | 5 | | | 5 | (4) (4) |
| 22 | 6- | 4+ | 6o | 6+ | 6 | 5 | 6 | 6 | 5+ | 6 | | | 6 | (4) 3 |
| 23 | 6- | 5o | 6+ | 6o | 6 | 5 | 6 | 6 | 6- | 6 | | | 6 | 3 (5) |
| 24 | 6o | 5o | 6o | 7- | 5 | 5 | 6 | 7 | 6o | 6 | | | 6 | (4) 3 |
| 25 | 7- | 5+ | 7- | 7- | 6 | 6 | 7 | 7 | 6+ | 6 | | | 6 | 3 2 |
| 26 | 7- | 6- | 7- | 7- | 7 | 6 | 7 | 7 | 6+ | 6 | | | 6 | 2 1 |
| 27 | 7- | 7- | 7- | 7o | 7 | 6 | 7 | 7 | 7- | 6 | | | 6 | 1 1 |
| 28 | 8- | 7o | 7o | 7+ | 7 | 7 | 7 | 7 | 7+ | 6 | | | 6 | 1 1 |
| 29 | 7+ | 6+ | 7o | 7- | 7 | 7 | 7 | 7 | 7- | 6 | | | 6 | 2 3 |
| 30 | 7o | 6- | 6+ | 6+ | 7 | 6 | 7 | 7 | 6+ | 7 | | | 7 | 2 3 |
| 31 | 7+ | 6- | 6+ | 7- | 7 | 6 | 7 | 6 | 6+ | 7 | | | 7 | 2 2 |
| Score: Quiet Periods | | | | | P | 19 | 13 | 22 | 19 | | | | 12 | 12 |
| | | | | | S | 9 | 11 | 7 | 10 | | | | 16 | 16 |
| | | | | | U | 1 | 1 | 1 | 0 | | | | 0 | 0 |
| | | | | | F | 0 | 0 | 0 | 0 | | | | 0 | 0 |
| Disturbed Periods | | | | | P | 2 | 3 | 1 | 2 | | | | 1 | 0 |
| | | | | | S | 0 | 1 | 0 | 0 | | | | 0 | 0 |
| | | | | | U | 0 | 0 | 0 | 0 | | | | 0 | 0 |
| | | | | | F | 0 | 2 | 0 | 0 | | | | 2 | 3 |

() represent disturbed values.

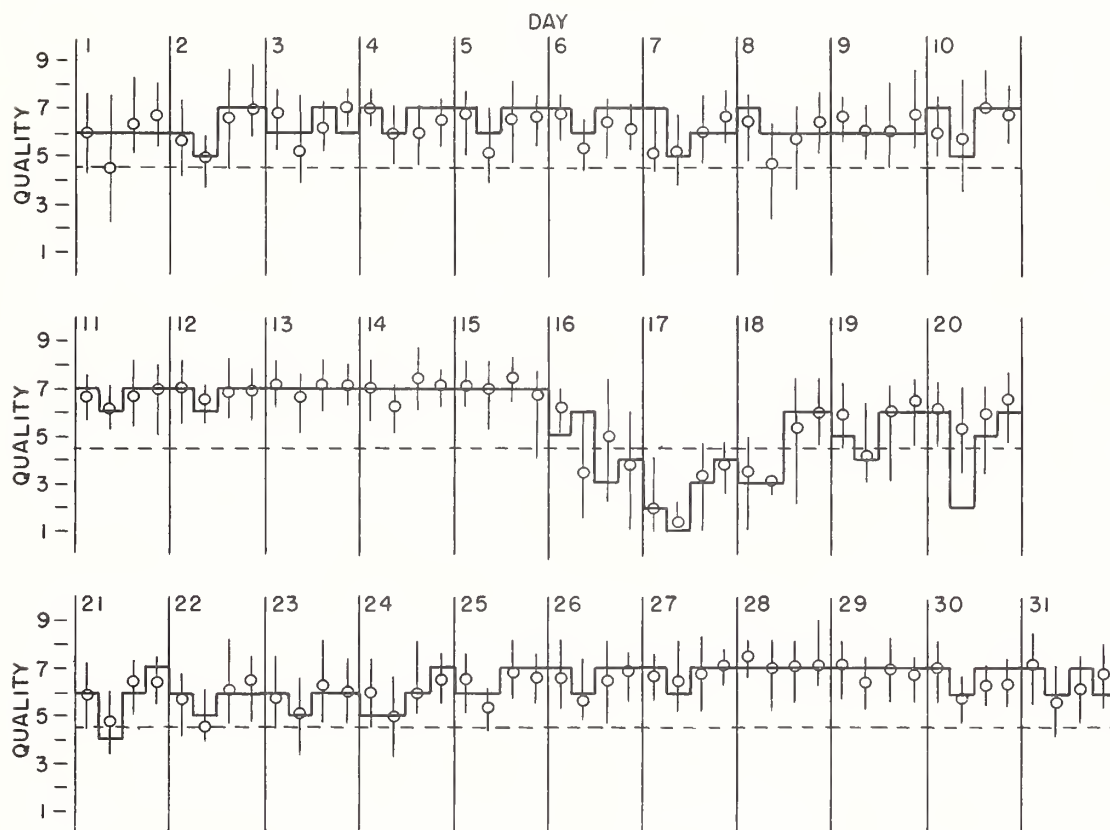
NORTH ATLANTIC

— Short-term forecast

AUGUST 1959

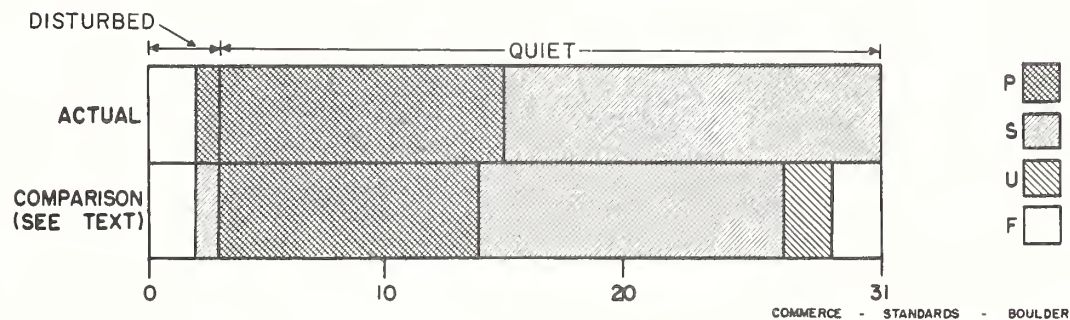
| Range of reports

o Quality figure

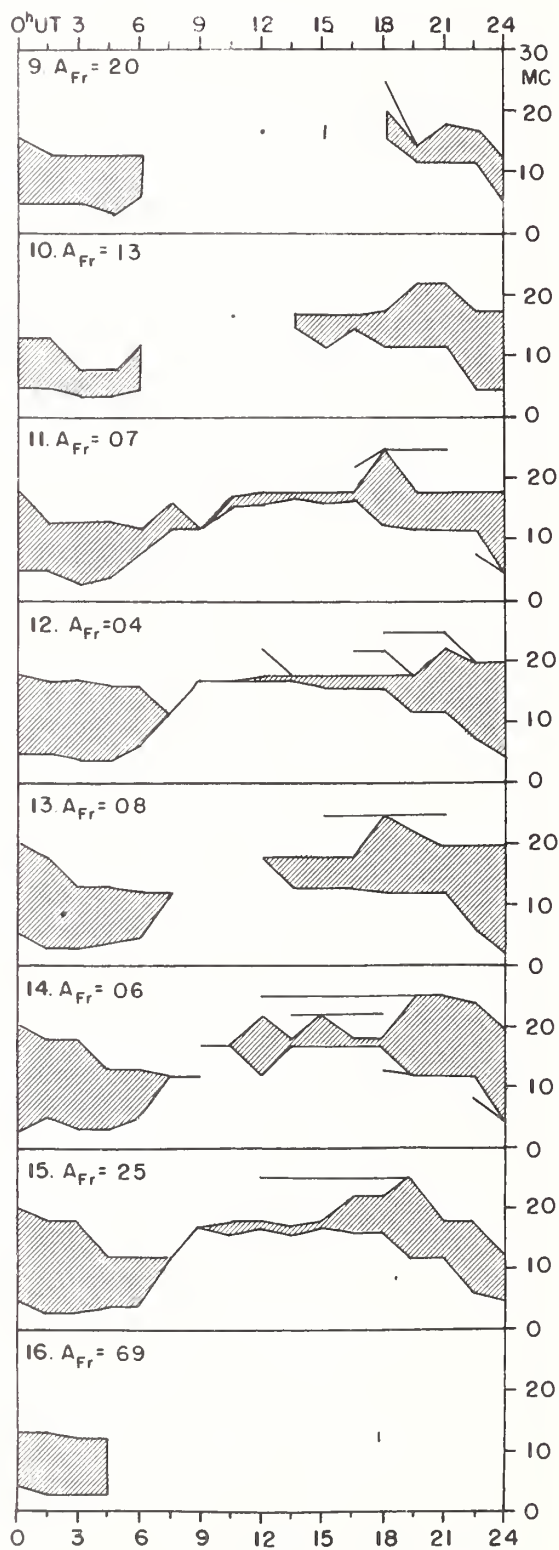
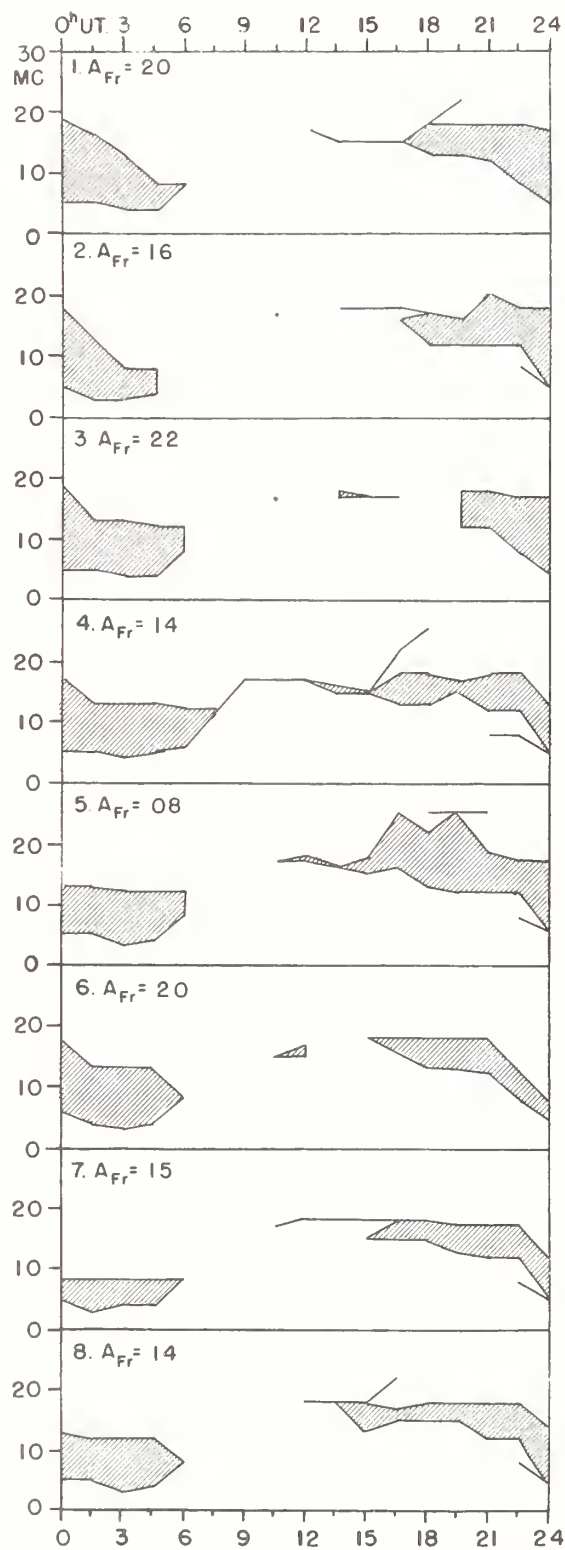


OUTCOME OF ADVANCED FORECASTS

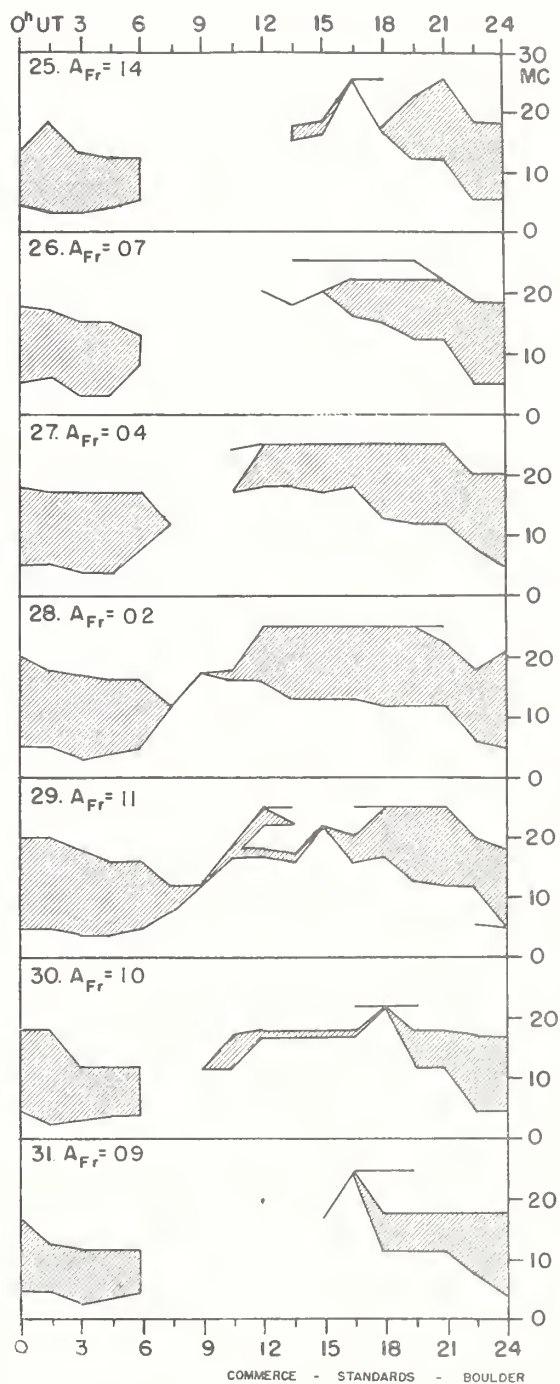
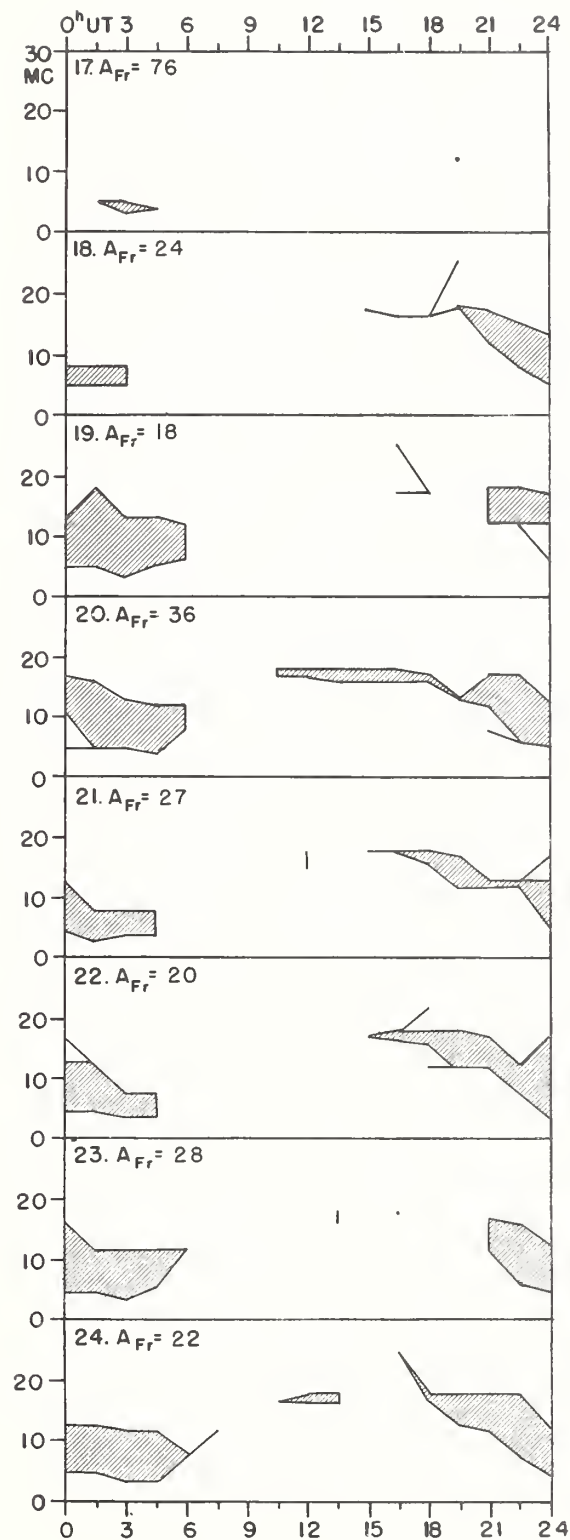
FINAL ESTIMATE



AUGUST 1959



AUGUST 1959



CRPL RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

NORTH PACIFIC

AUGUST 1959

| Aug. 1959 | North Pacific 12-hourly quality figures | | Short-term fore- casts issued at | | Whole day index | Advance forecasts (Jp reports) for whole day; issued in advance by: | | | | Geomag- netic K _{S1} | |
|--------------|---|--------------------|-------------------------------------|------|-----------------------|--|--------------------|--------------------|-------------------|-------------------------------------|------------|
| | 0700 to 1900 | 1900 to 0700 | 0600 | 1800 | | 1-7 days Final | 1-7 days Jps | 1-7 days SDW | 1-7 days Jp | Half Day (1) | Day (2) |
| 1 | 5 | 5 | 5 | 6 | 6 | 6 | | | 6 | (4) | 3 |
| 2 | 7 | 7 | 5 | 6 | 7 | 6 | | | 6 | (4) | 2 |
| 3 | 7 | 6 | 6 | 6 | 7 | 6 | | | 6 | (4) | 3 |
| 4 | 6 | 6 | 6 | 5 | 6 | 6 | | | 6 | 3 | 3 |
| 5 | 6 | 5 | 6 | 6 | 6 | 6 | | | 6 | 2 | 2 |
| 6 | 5 | 5 | 6 | 5 | 6 | 6 | | | 6 | 3 | (4) |
| 7 | 6 | 6 | 6 | 6 | 6 | 6 | | | 6 | 3 | 2 |
| 8 | 6 | 5 | 6 | 6 | 6 | 6 | | | 6 | 2 | 3 |
| 9 | 5 | 6 | 6 | 5 | 5 | 6 | | | 6 | 3 | (4) |
| 10 | 6 | 7 | 6 | 6 | 6 | 5 | | | 5 | 2 | 2 |
| 11 | 6 | 7 | 6 | 7 | 6 | 5 | | | 5 | 2 | 1 |
| 12 | 6 | 7 | 7 | 7 | 7 | 5 | | | 5 | 2 | 2 |
| 13 | 7 | 7 | 7 | 7 | 7 | 7 | | | 7 | 2 | 2 |
| 14 | 7 | 7 | 7 | 7 | 7 | 7 | | | 7 | 2 | 2 |
| 15 | 7 | 6 | 6 | 6 | 7 | 7 | | | 7 | 2 | (4) |
| 16 | 3 | 3 | 5 | 4 | (4) | 6 | | | 6 | (6) | (7) |
| 17 | 2 | 4 | 2 | 3 | (2) | 6 | | | 6 | (8) | (5) |
| 18 | 5 | 6 | 4 | 5 | 5 | 6 | | | 6 | (5) | 3 |
| 19 | 6 | 6 | 5 | 6 | 6 | 6 | | | 6 | (5) | 2 |
| 20 | 5 | 6 | 3 | 5 | 5 | 5 | | | 5 | (4) | 3 |
| 21 | 5 | 4 | 6 | 5 | 5 | 5 | | | 5 | (4) | 3 |
| 22 | 5 | 6 | 5 | 5 | 5 | 5 | | | 5 | (4) | 3 |
| 23 | 6 | 5 | 6 | 5 | 6 | 4 | | | 4 | (4) | (4) |
| 24 | 7 | 6 | 6 | 6 | 6 | 4 | | | 4 | (4) | 2 |
| 25 | 6 | 6 | 6 | 6 | 6 | 5 | | | 5 | 3 | 2 |
| 26 | 6 | 7 | 6 | 7 | 6 | 6 | | | 6 | 3 | 1 |
| 27 | 7 | 7 | 6 | 7 | 7 | 6 | | | 6 | 1 | 0 |
| 28 | 7 | 7 | 7 | 7 | 7 | 6 | | | 6 | 0 | 0 |
| 29 | 7 | 6 | 6 | 6 | 7 | 5 | | | 5 | 2 | 3 |
| 30 | 6 | 6 | 6 | 6 | 6 | 5 | | | 5 | 2 | 3 |
| 31 | 6 | 6 | 5 | 6 | 6 | 6 | | | 6 | 3 | 2 |
| Score: | Quiet Periods | P | 15 | 17 | | 15 | | | | | |
| | | S | 12 | 11 | | 10 | | | | | |
| | | U | 2 | 0 | | 2 | | | | | |
| | | F | 0 | 0 | | 2 | | | | | |
| | Disturbed Periods | P | 1 | 0 | | 0 | | | | | |
| | | S | 0 | 3 | | 0 | | | | | |
| | | U | 1 | 0 | | 0 | | | | | |
| | | F | 0 | 0 | | 2 | | | | | |

() represent disturbed values.

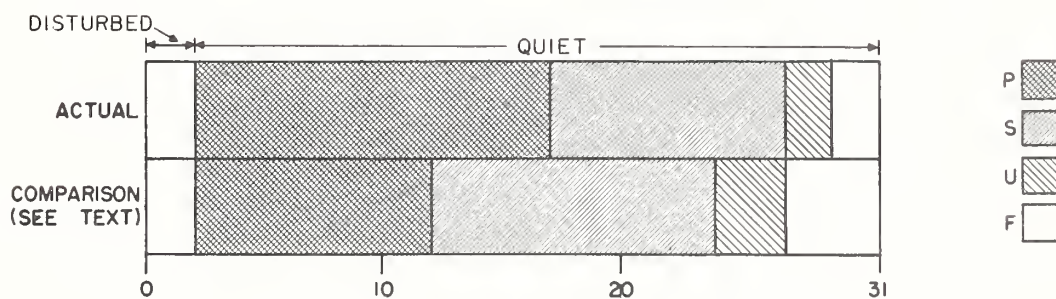
COMMERCE - STANDARDS - BOULDER

NORTH PACIFIC

AUGUST 1959

OUTCOME OF ADVANCED FORECASTS

FINAL ESTIMATE



ALERT PERIODS AND SPECIAL WORLD INTERVALS

INTERNATIONAL GEOPHYSICAL COOPERATION 1959
SEPTEMBER 1959

| Issued Day/Time UT Sept 1959 | Advance Geophysical Alert | No. | Worldwide Geophysical Alert | Special World Interval |
|------------------------------------|--------------------------------------|-----|-----------------------------|-------------------------------|
| 01/1300 | Burbank Solar Flare 8/31/2235Z | | | |
| 01/1800 | Sacramento Peak Solar Flare 01/1652Z | | | |
| 02/1340 | Ft. Belvoir, Magnetic Storm 02/0110Z | | | |
| 02/1600 | | 24 | Magnetic Storm 02/0110Z | |
| 04/0045 | Ft. Belvoir, Aurora Inferred | | | |
| 04/1600 | Magnetic Storm 03/2159Z | 25 | Aurora Inferred Magnetic | Start Special World Interval |
| 05/1600 | | 26 | Storm 03/2159Z | Finish Special World Interval |
| 19/0500 | Ft. Belvoir, Magnetic Storm 18/21XXZ | | | |
| 19/1600 | | 27 | Magnetic Storm 18/2100Z | |
| 20/1600 | | 28 | | Start Special World Interval |
| 21/1600 | | 29 | | Finish Special World Interval |
| 25/0200 | Ft. Belvoir, Magnetic Storm 25/0045Z | | | |
| 25/1600 | | 30 | Magnetic Storm 25/0045Z | |

COMMERCE - STANDARDS - BOULDER

